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MONTHLY MAGAZINE.

APRIL, 1880.

FAITHFULNESS TO NATURE is the highest principle—the governing idea in art. By faithfulness is not meant mere copying, but rendering by art and handcraft impressions similar to those received from nature, or in accordance with natural laws. The painter or sculptor, by his chisel or his brush, strives to convey the thought that is vivid in his own mind; careless, perhaps, of the less important details, he is successful just in proportion as he puts his ideas upon canvas or fashions them in marble in lines that are unmistakable to every observer.

The musician, by producing a succession of pleasing sounds, so combines the chords as to awaken, by association of ideas, hope, or joy, or fear, or other emotions of the mind. The master of music is he who can the most effectually appeal to the human sympathies, or most intensely please with delightful harmony. We acknowledge the merit of the poet according to his truthful utterance of the sentiments of humanity, or as he faithfully depicts with his pen the acts, the movements, or the appearance of men and animals and inanimate nature. In the work of the architect our admiration is challenged either by the adaptation of the structure to the purpose for which it is intended, or by the skillful use of the most appropriate materials for the different parts, or by pleasing combinations of forms and colors; and either of these ends is attained in the highest degree only by conformity to natural laws. Anything

that man fashions is judged of in the same manner; its value is determined according to the general principle now stated. Is it a shoe? Then it must be of a material that will fit well and easily to the foot, and that will afford proper protection from cold and moisture; consequently, the maker must take into consideration the form of the foot and its movements, some physiological requirements, the peculiarities of the climate and the surface of the ground where it is to be used. When his work complies with all the conditions required of it, it is artistic in the highest sense—it is faithful to nature, or in harmony with those natural laws that relate to it. A piece of ornamental ground to be pleasing must be artistic in the sense just defined; but now are suggested the questions, How shall we determine the actual requirements of any particular place? and, subordinately, How shall these requirements be fulfilled? We hope to offer some ideas that shall assist in the solution of these inquiries, and to present them in such a manner that inexperienced, but interested people may make them available in the improvement of their own grounds.

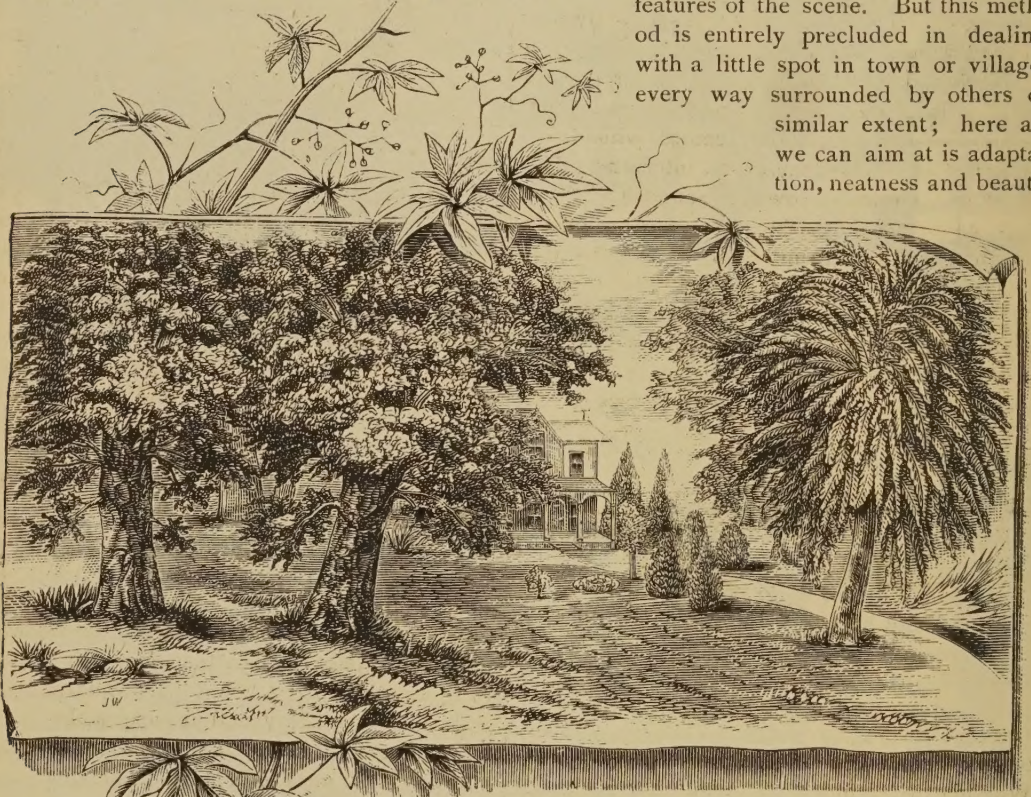
In the first place, the locality greatly influences the course to be pursued in any particular case of ornamental gardening. If it be in the suburbs of a populous town, and in connection with an elegant residence, we expect, very properly, a more elaborate design and greater attention to many little points than in the

country or near a small village. In the latter, a greater breadth and sweep of lawn, though not so perfectly kept, and a more liberal planting of trees, and especially those that attain great size would be appropriate.

Few persons having the ability to arrange ornamental grounds well ever have the opportunity to exercise their taste, and fewer still,

very delicate discrimination to do enough and not too much on such very limited places.

With a few acres to deal with, we have an opportunity to treat the subject somewhat as a painter does the most prominent part of a landscape, with all the surrounding scenery as a background. In this case the planting will be sensibly determined by the predominant natural features of the scene. But this method is entirely precluded in dealing with a little spot in town or village, every way surrounded by others of similar extent; here all we can aim at is adaptation, neatness and beauty



having the opportunity are possessed of the taste that fits them for the work. Most places do not exceed an acre or two and few cover

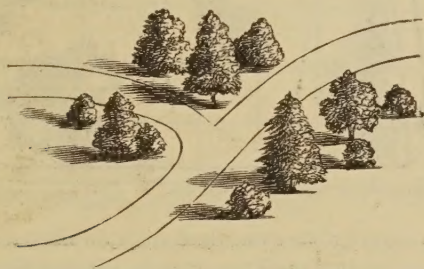
five acres, upon which must be an orchard or a fruit and kitchen garden; but by far the greater number are not more than a quarter of an acre, and even less, in size, and these, by their numbers, are quite as important and as much demand attention as those of greater extent. On these small places nothing very elaborate can be attempted, but their size will not prevent the exercise of good taste; in fact, it requires a

considered almost entirely in relation to the bit of ground itself.

Upon any place, of whatever size or wherever situated, what first demands attention is the proper position of walks and drives; unless these are correctly placed it is hopeless ever to expect beauty, whatever else may be done. Misplaced walks and roadways are deformities so great on any grounds that nothing can hide them or make amends for their awkwardness. It would seem as if there were little chance for mistake in laying down walks; but, unfortunately, nothing is more common than to see lawns cut up with little walks running about in different directions without any use—beginning nowhere and ending nowhere. This state of things, we have the satisfaction of knowing, is less common than formerly, and among us, as a people, there is a growing taste in all horticultural operations, from which much is to be expected. We do not care to see repeated in this country the extensive, though elegant, grounds, the heritage of a feudal ancestry, that are often met with in Great Britain and other

parts of Europe, but what is most to be desired is that every one shall have the inclination and be possessed of the taste to improve and beautify his own home.

Only such walks should be made as are really necessary, and these are not difficult to determine. If there is any doubt of the propriety of making a contemplated walk, leave it for your heir or the next owner to decide, and turn your own attention to something you are fully persuaded about. In reference to the direction a walk should take, we are to consider that, in passing from one point to another a person naturally takes the shortest course, which is a straight line; but, if any object intervenes, then there is a circuitous passage around it. These two statements form the basis of a principle which should govern in laying down all walks and drives. In many situations curved walks and roadways are more pleasing to the eye than straight ones; and, in order that an apparent necessity shall exist for such curves, a tree or a group of trees, or a clump of shrubbery is in-



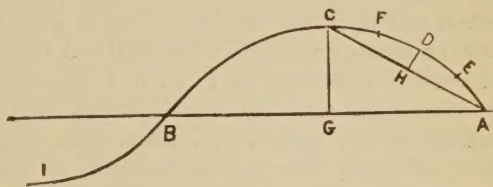
PLANTING FOR CURVED WALKS.

troduced, about which the walk shall curve. Whether the main walk leading from the street to the front entrance of the residence shall be straight or curved, depends, usually, upon the width of the grounds and the distance of the house from the street, and, to some extent, the size of the house. If the house be one of ample size, and stand quite near, or within fifty feet of the street, or the lot narrow, a straight walk from the street to the door is in the best taste; but, if the house stand back a hundred feet or more and the grounds are broad, a winding, or curved, walk or roadway is admissible. If the house be a low cottage it may stand much nearer the street than a large house, and be approached by a winding walk. Its small size conveys the impression of remoteness, and this impression is enhanced by a skilfully-curved walk. Exactly the reverse of this is true with a large house which, by its size, even though at considerable distance, appears very close.

A main entrance walk, if of gravel, should not be less than six feet in width, and may be more; if it is to be used as a driveway, it should be at least eight feet wide, and, if there is a

probability that there will be an occasional meeting of carriages, ten feet will be narrow enough.

Unless the curve for a walk be the arc of a circle, it will usually be found that the best guide in forming it is the eye; for by this means



STAKING A CURVED LINE.

the final result is to be judged. To form a curve in this manner, set a stake at each of its extremities and a third one at the middle of the bend, and then subdivide each of these parts as many times as may be necessary to clearly define the line, setting a stake at each point of subdivision. Suppose we wish to mark the curve A B. Set a stake at A and another at B, and direct an attendant to set a third at C; note carefully the length of the line C G; now, if the curve be a simple arc of a circle, the line D H should be nearly one-third the length of C G; but, if less than the arc of a circle, the difference in these lines will be greater. Now, retaining your position at the point A, and drawing an imaginary straight line from C to A, have your assistant measure or pace off half the length, or from C to H, and then direct him to move out as far as you judge necessary and drive a stake at D. Still remaining in the same place, in the same manner direct a stake to be set at E; then walk up to the stake D, and in the same way determine the spot, and have another stake placed at F. In this manner continue until the whole line is staked sufficiently close to mark it for cutting with a spade. By practice one will become quite expert in setting the stakes with an assistant. In order that the result shall be



SECTION OF WALK.

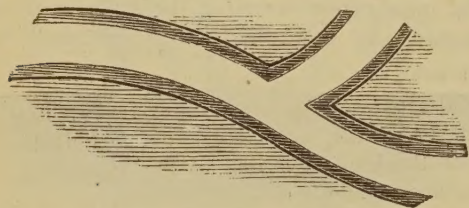
pleasing, it will be necessary to look at the curve from each extremity, as well as from different points in its length—the line might appear well from one point, but harsh and angular from another; especial care should be used in making a compound curve; such as is seen in the whole length from A to I—it should be graceful and pleasing viewed from any point. Having formed one side of a walk or drive, the

other is easily made to conform to it by drawing a similar line equally distant in all its parts from the corresponding parts of the first side.

On most grounds it will be necessary, in order to have a dry and lasting road, to take out the soil to the depth of about eighteen inches and to fill this space at least a foot deep with stones, and then four or five inches of gravel over the stones, as shown in the sectional illustration. If coal-ashes are to be had, they will be found excellent to lay over the stones before placing on the gravel. As ashes pack very firm and hard they are unfavorable to the growth of weeds. The best material to prevent the growth of weeds is gas-lime; if this can be procured, one should not neglect to obtain it when making walks and roads. The gas-lime can be mixed intimately with ashes and spread on together, or, if ashes are not used, mix it with the gravel as it is spread. Its presence will effectually prevent the growth of weed-seeds, and thus save a great deal of labor that would otherwise be required to destroy weeds.

It is always best to finish the edge of the roadway by sodding about a foot wide on each side; this prevents the edge from breaking down, which would be unavoidable without this protection. The sodding of the edges should be done as soon as the soil has been removed from the roadway; the surface of the sod edging will represent the grade of the grounds, and, in working up the land, it will be made to conform to these lines.

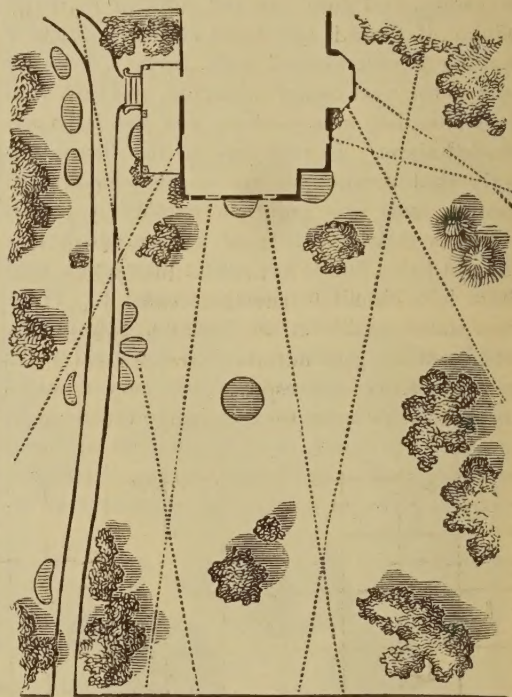
In planting, the primary groups and single objects are those demanded by the curves and the intersections of the walks; after these have been located, the positions of all others are mainly determined in the manner that will now be explained. By reference to the plan of grounds here shown, dotted lines will be seen running in different directions between the trees;



WALKS WITH TURF EDGING.

these lines represent lines of vision, and it is desirable to have as many and as extended views through the grounds as possible. The planting, therefore, is to be done between these lines, so as to leave open views through the grounds. Special reference must be had to the principal points of view from the house, and clear, open outlooks secured in every direction. As a rule, shrubs look best when planted in

groups, but the rule is not inflexible, for those shrubs that have particularly handsome and distinct foliage, and those that make well-formed and symmetrical single specimens, or, in other words, that have sufficient distinctness of charac-



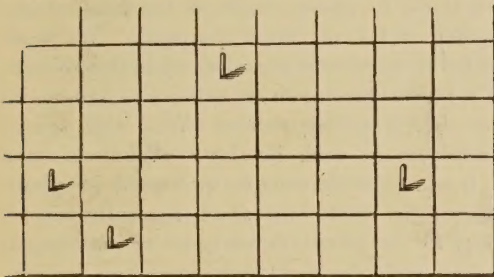
ORNAMENTAL GROUNDS SHOWING LINES OF VISION.

ter to attract notice or admiration on account of their individual qualities, may be planted singly. Shrubs in groups appear best when planted so closely that, when fully developed, their individual lines are lost and an impression of a mass is produced, instead of a number of single plants.

In planting trees, it should be a rule to allow each of them sufficient space for perfect development, for upon this their beauty pre-eminently depends. The more good qualities a tree combines in itself, the greater is its claim to hold a conspicuous place and to be planted singly. Every tree, to a near observer, should be distinct in all its outlines, although a number of trees, by their comparative proximity, may at a little distance appear as a group. From these statements it follows that trees and shrubs can be properly and skilfully arranged upon ground only by one who has an intimate knowledge of many of their peculiarities. On small places only a few single trees can be admitted, and their arrangement, consequently, is not difficult. In the improvement of grounds, the number in our country who can avail themselves of the aid of experience and skill is comparatively small, and, therefore, such improvements must, to a great extent, be performed by the owners;

with such ability as they can personally bring to it. But, if there is a zeal to ornament and beautify grounds, most of the difficulties will disappear or be overcome.

What a transformation in our rural scenery might be effected in even a few years, if all our inhabitants could be imbued with a spirit of improvement of the home grounds! What charming sights might gladden our eyes on every side, and how little the expense and how great the enjoyment in performing the work! We would encourage every one to attempt to make the grounds about his residence beautiful, whether in town or country. The first step to take is to decide what to do—this is half the battle. It is not a subject that can be quickly disposed of, and it is worthy of all necessary consideration. Do not, therefore, attempt anything suddenly and, especially in the spring, although at that time the necessity of improve-



SECTION OF MAP PAPER.

ment may be most appreciated; it is then too late for most persons to do the work well. Our spring seasons are short and usually crowded with engrossing cares. It is a very suitable time for good resolutions, but, it will be much better, in most cases, to perform the greater part of the work in the autumn and leave what is absolutely necessary to be completed in the following spring.

As an essential assistance, we would advise a map of the grounds to be made, showing as much as possible what is to be done. In almost every family there is some member who is capable to do this part of the work. All the lines and marks being made with a pencil, they can be erased and altered to any extent. A number of trials may be required before a satisfactory result is reached, but the end to be attained is worth much effort. Sheets of cardboard, to be had of booksellers, are of the size, twenty-two by twenty-eight inches. If we draw the plan eight feet to the inch, such a sheet will easily admit of a sketch representing a piece of ground 150 by 200 feet. Larger or smaller sheets may be used, and the scale may be diminished or increased so that a plot of almost any ordinary size may be well shown. One of the most convenient methods in making a plan

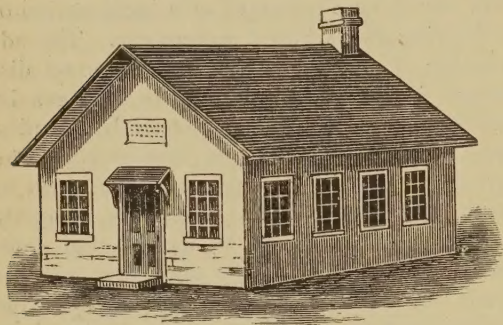
is to divide it into squares of one size, each one of them representing the same number of square feet on the surface of the ground. For instance, we will suppose the plot of ground we wish to map to be 120 by 200 feet; at eight feet to an inch, this space will be represented on the map by a parallelogram fifteen inches wide by twenty-five inches long. Draw lines both ways across this figure parallel to the sides and ends, a quarter of an inch apart; each of these little quarter-inch squares represents a square on the ground of two feet each way. The sketch here presented of a small section of a drawing shows how it will appear. The advantage of this method is that the exact distances indicated on the plan or map can be ascertained easily, and, consequently, the plan may with little difficulty be transferred to the ground. Having thus prepared the sheet of paper, trace out the walks and mark distinctly where every object is to be located, and number it on the plan; at the same time, use the same numbers placed opposite the names of the objects they refer to, arranged in a list, made as the plan progresses. In this way the design can be made carefully, a little at a time, and every feature can be well thought out before the work on the ground is commenced.

It is not expected that grounds designed and improved in this manner will be faultless. When competent assistance can be obtained, even at considerable expense, it is advisable to profit by it; but, when it is not to be had, then let each one do the best he can for himself; nature will do much with growing trees and plants to produce harmonious effects, and faults and imperfections, when perceived to be such, may be remedied.

Our farming community ought not to be the last to put these ideas into practice. It is a pleasure to say that in almost every section of the country a few enterprising persons and lovers of nature have in this matter set excellent examples to their neighbors, and their beautiful grounds are living memorials of their refined taste; still, as a people, the embellishment of the home grounds of the farm is a work that is yet almost wholly to be accomplished. How effectually the disagreeable sights of barnyards and other places in view from the house and the road, on nearly every farm, may be intercepted by the proper planting of trees, and what variety of trees and shrubs for beauty and use we have at command! Guided by a well-designed plan one may do only a little planting each spring, if so disposed, and thus make the work lighter, besides, exactly what is necessary to be done from time to time will be known.

BEAUTIFY THE SCHOOL GROUNDS.

We cheerfully give place to the following suggestions of one of our correspondents, and trust, before many summers shall have passed, our country school houses, whence emanate influences that are life-long, shall present exterior aspects of beauty and refinement. Our correspondent says: "The country school house, in too many instances, presents a very unattractive appearance, both inside and out. The

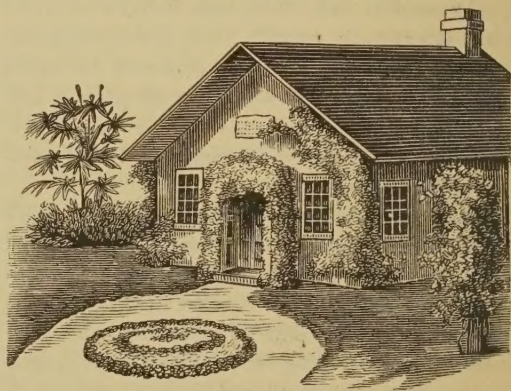


windows are often entirely unshaded, and the grounds, unadorned with tree, shrub, or flower, are littered with sweepings and sprinkled with weeds. Now, by a little pleasant labor, the school children can make real pictures of these weather-beaten buildings. The boys can easily make a rustic porch at the door, which, in a short time, may be covered with vines. The girls can have hanging-baskets at the windows, and pretty little flower beds under them. They will get their lessons all the better with these fair and faultless things about them, and, besides, will be cultivating a taste and refinement which will sweeten and beautify all their lives. Boys and girls, now is the time to begin to lay plans for adorning your school-house next summer with vines and flowers."

In order to give an idea of what may be done in a single summer to beautify the little, plain, country school-house, we present our readers with two sketches of the same place. One is a very good representation of what we see anywhere and everywhere in any part of the country, a low, oblong, plain building, without ornament outside or in, and the immediate surroundings a blank, hard-beaten playground; the other shows what the appearance of the same place would be if a little care and labor were bestowed in ornamenting it with plants. Some annual climbers and ornamental-leaved and flowering plants in beds will produce all the change.

Is it not worth the care? If such a change as this can be effected at once, or in a few months, how much more may be done by plant-

ing trees and shrubs, and other perennial plants that will be permanent. With these for the more prominent features, and annual-flowering plants for bright, gay colors, and for supplying bouquets for the school-room, the plain and almost forbidding-looking school-house would be transformed into a most attractive object. Is it not a duty we owe to our children, to make their surroundings pleasant when we can do so? By thus making wisdom's ways, ways of pleasantness, shall we not increase their desire for study and self-improvement? shall we not help to form in their minds the association of the good, the true and the beautiful? We would not lessen the availability of the children's play-ground, but remove it a little distance from the building, and provide some parts of it with trees, to afford shade in the heat of the summer, if for no other purpose. We have heretofore expressed ourselves upon this subject, but it is one of so much importance as to demand more than a passing notice. Who will agitate this subject in each locality? Whoever shall do it must be personally interested in plant-culture; as such, we shall naturally expect ladies to be prime movers, or at least equal workers with the most cultivated and benevolent men in the community. At present, in quite a number of States, ladies have the privilege of holding school offices and voting for



school officers. In other States similar privileges are sought and, no doubt, will soon be granted, with additional ones besides, before many years have passed.

Can women make a better record for themselves, or better express their real interest in the training of children, than to take up this idea of the improvement of the school grounds, and with their practical methods and nice tact, embody it as a reality in tastily arranged grounds, graceful trees, handsome shrubs, and the gay, glowing colors of beautiful flowers?



CALIFORNIAN BULBS.

Little has been written on the subject of *Calochortus*, *Brodiea*, and *Triteleia*, our native Californian bulbs, and that little in a manner rather to discourage their culture, by advancing the idea of their being hard to raise, and troublesome and difficult to manage. In one of your MAGAZINES I noticed the remark in reference to them, that "they are but little cultivated even in gardens on this coast." This, I grant, is true to some extent; but is not true that many a plant is sadly neglected at home, where it grows wild, but abroad it is highly prized and sought for, even at exorbitant prices, by the multitude of flower-lovers who are ever on the alert for something new and foreign?

There are gardens here, however, where these bright gems of our coast are cultivated in great variety, and are highly appreciated by true lovers of the beautiful, who see beauty in a flower, no matter where it is found, even if among tare and thistle.

How often we find cases where people will live for years in a place and know nothing of the beautiful wild plants that grow and bloom within a few rods of their door, and, even, if they know of them, do not think it possible that they may be removed to the garden and wonderfully improved by a little care and attention. Should the same plant, however, come to these persons from another country, under a glowing report of its excellent qualities, with a new name, then, of course, it must be something grand, and they would plant it carefully, and, in nine cases out of ten, kill it by kindness. This is undoubtedly the case with some who have our native bulbs. They plant them in pots or boxes for fear of losing them in the border. The fact is, it would often be better for the bulbs if they were lost in the open ground, for nature would give them better care than they sometimes receive otherwise. After planting they are often soaked with water and put in the full sunshine to boil, because they come from California, and lo, total failure is the result. Many of the varieties of bulbs are not

particular as to soil, provided it is well drained, with plenty of stones, broken bricks, coarse gravel, or sand thoroughly incorporated with the soil. The bed should be made in full sunshine, in which the bulbs should be placed about four inches below the surface, and then—let them alone. This should be done in the fall, and by the next summer they will gladden your heart by their brightly-painted corollas, as they sway to and fro in the breeze during the entire season.—J. E. P., *Rio Vista, Cal.*

MY WINDOW PLANTS.

MR. VICK:—Last winter I was much pleased with the *Duc de Malakoff* *Abutilon*. A small plant set out in the border in June, it has now grown to a foot and a half; branchless, but its leaves were so large it was very handsome. After it had become established in the border, last summer, I cut off about ten inches, so that it might branch out. The result is, I have a handsome, bushy plant, to which I can apply the words of KEATS,

"A thing of beauty is a joy forever;
Its loveliness increases"

with the daily growth of its richly-marbled leafage, as varied in their markings as the blades of striped grass, of which, in childhood, we vainly sought to find two alike.

In my window box I have an *Abutilon Mesopotamicum variegatum*, one of the group represented in the colored plate of the MAGAZINE for July, 1879. One also drops over the sides of my scarlet hanging-pot and twines among its cords, giving a very pretty effect. Both flowers and leaves make it very desirable.

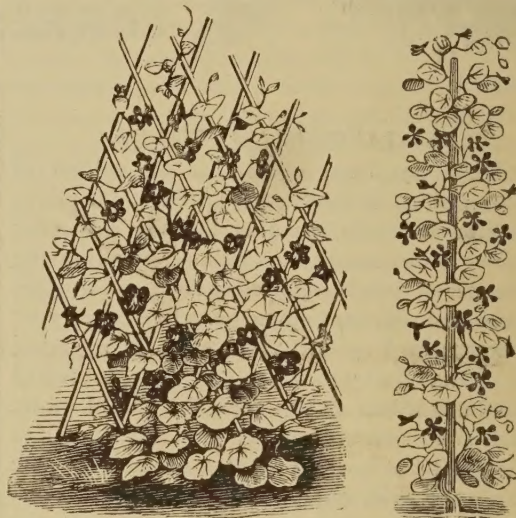
Happy Thought, with its creamy center and green-margined leaves, shows to good advantage nestling among other *Geraniums*, while *Pride of Mt. Hope*, with yellow foliage toned with chocolate, gives a bright effect to other plants, as do *Coleus* of different sorts; of special value we note *Pictus* and *Multicolor* as sorts not widely known till last year. We have found the interspersing of these foliage plants with others very satisfactory.

In the *MAGAZINE* of March, 1879, we find a colored plate of *Geraniums*, and among them, *New Life*. Will you permit me to give a bit of its biography? I am interested in gathering up all available facts respecting the origin of novelties, and this much has been garnered: that *New Life* originated with Mr. C. H. CANNELL, of London, England, in our Centennial year; that he offered it at £1 each, sold only by subscription, none to be sent out until 1000 had been paid for. It met with a rapid sale, being considered the greatest advance made in *Geraniums* of late years. Says Mr. CANNELL, in his catalogue, "Its propagation will not cease until it is seen cultivated in the windows and gardens of every cottage in the land." It is stated that, when first offered by the florists here, they brought \$5 each. In the description of this novelty, it is represented as being striped with salmon and white on a deep-scarlet ground. This, we presume, is its general feature, but it is not constant. Sometimes it runs back to plain scarlet, others to salmon, while on others on the same plant there will be flowers purely striped. One would be very willing to have a *New Life* display such a curious freak as this. My own plant is unlike either described. Its features are precisely like those *Verbenas* which are striped, splashed and spotted with pink or purple on a white ground. One pip is scarlet with a stripe of white on one, splashes on another, spatters on another, and no two pips alike in their markings. But, with all its changeful moods, *New Life* is a 'novelty worth having.—MRS. M. D. W., *Yarmouth, Me.*

THE TROPÆOLUM.

MR. JAMES VICK:—I suppose that everybody knows how to grow *Tropæolum majus*, or, as it is commonly called, the *Nasturtium*. But even if it is a plant so common and so easily grown, a few remarks on its cultivation may not be out of place. It is a plant that requires but little skill and attention for its cultivation, but, notwithstanding this fact, no plant will repay a little attention sooner than the *Nasturtium*. The climbing varieties of the *Tropæolum* form a class of very useful, ornamental climbers, and are of exceeding rapid growth, and, as they stand dry and hot weather remarkably well, and are not subject to the attacks of insects, they always present an attractive appearance, and whether trained on poles or trellises, are at all times highly decorative. The *Tropæolum* is a native of Peru, from which country it was introduced in 1686, and it is said to be a perennial plant in its native country. The stems and leaves abound with a pungent, watery juice, and the seeds, if pickled while young, are consid-

ered by some an excellent substitute for capers. The varieties of the *Tropæolum* are numerous, and do not in all cases perpetuate themselves true from seed. The varieties differ in the color of the foliage as well as in the flower; in some the leaves are of a bright, lively green, and in others very dark. The best and most distinct



TROPÆOLUM MAJUS.

varieties are, *T. majus Scheurmanii*, straw-color spotted brown; *T. coccineum*, bright scarlet; *T. atropurpureum*, dark crimson; *T. Dunnetti*; *New Orange*, orange; *T. luteum*, yellow, and *T. Edward Otto*, bronze. The seed can be sown under glass about the middle of April, or in the open ground where they are to bloom, about the tenth of May. If sown under glass,



FLOWER OF TROPÆOLUM.

care must be taken that the plants do not become drawn. The *Tropæolum* flowers best when grown in a light soil, and little or no manure is required, as a rich soil has a tendency to make them run to leaf. This plant can also be used for bedding purposes, and a bed of the

mixed varieties is very attractive. For this purpose, strong and healthy plants are required, and as soon as they commence to grow they must be carefully trained so as cover the bed, and fastened to their places by means of pegs. They also require to be looked over occasionally during the season, and the branches interlaced with each other and pegged down, if



CANARY FLOWER—*TROPÆOLUM PEREGRINUM*.

necessary, and some of the larger leaves had better be removed. There is also a double-flowering variety of *T. majus*; I have seen it, but do not consider it worthy of cultivation. In the evening the flowers of the *Tropæolum* are said to emit spontaneously, at intervals, visible sparks like those of an electric machine. This was first observed by the daughter of LINNÆUS, and if any of your readers have noticed these sparks, I should be much pleased to have them give full particulars through the MAGAZINE.—C. E. P., *Queens, L. I.*

CULTURE OF THE VERBENA.

The Verbena is one of the most beautiful flowers cultivated, whether in beds on the lawn, in mixed borders, or in vases, pots, or baskets; and, in my opinion, it is unsurpassed for bouquet-making. Having had several years experience in the culture of this lovely flower, I will give it for the benefit of others.

Verbenas to be raised from seed should be started in March, under glass, either in a hot-bed, or in a box or pan in the kitchen window—the latter has been my plan, as I do not have the advantages of a hot-bed. I plant the seeds in a box from the middle to the end of March. I fill the box with fine, sandy soil, that will not bake; make it smooth on the top, then sow the seeds thinly in rows, and sift a little dirt over them. I place a piece of brown paper over the soil to screen it from the direct rays of the

sun until the plants are up; being careful to keep the soil moist, and never let it become dry while the seeds are germinating. When the plants are up, I remove the paper and let them have the full sunshine, keeping the earth moist, but not soaking wet. On fine days I give them air by raising the window a little. If the plants are crowded, I transplant some of them into small pots, but, if not, I let them remain in the seed-box until planting out, which will be when they are three or four inches high. The soil for Verbenas should be mellow, with a free admixture of sand, and manured well.

Whoever buys Verbenas from the florist, will generally have a plant with one slender stalk, crowned with one cluster of flowers. I have found by experience that cutting down the plant, that is, cutting off the flower and one or two joints below, is very beneficial. The plant will grow more stocky, and consequently more healthy. All the plants received from florists, that I have ever seen, have been in the condition I have described.

When the plants have become established after transplanting, there will be nothing more to do, except keeping out the weeds and stirring the soil occasionally.

I have never used any liquid manure upon Verbenas, except soap-suds; and no house-keeper who cultivates flowers will throw away soap-suds, if she has learned their value as a fertilizer. On washing days I put the waste water in a barrel or tub back of the house, and at night put it on the flower-beds, first loosening the soil, that it may soak well into the ground. No flower pays better for this treatment than the Verbena.

There is one important operation to perform in order to keep Verbenas in good, flowering condition during the season; that is, to pick off the seed-vessels. When the flower fades the strength of the plant goes to the seeds, and, if they are permitted to remain, the number of flowers will become less and less. I once had a beautiful bed of Verbenas that bloomed well for a time, and then gradually produced fewer flowers. Thinking it might be the maturing of seeds that had checked the flowering, I commenced cutting away the stems of the fallen flowers, and continued until I had nearly filled a milk pan. In a few days that Verbena bed was a blaze of brilliance. I continued to remove the faded flowers after this, and they bloomed until November; the first Sunday in November I cut a bouquet of Verbenas for a sick friend.

Although the Verbena, as a house-plant does not hold equal rank with the Begonia, Geranium, and other greenhouse favorites, yet, for

people who live in cold houses, where more tender plants would not thrive, or for those who are dependent upon wood for night-fires, and this is the case in many of our country towns, few plants will afford more satisfaction than the Verberna. Two years ago I selected ten of the most beautiful varieties and placed them in rather small pots; this was done in September. I took those branches which had rooted themselves, cutting them down, of course. I never take up old plants which have bloomed through the summer. I brought the plants into the house and they commenced growing finely, but, being obliged to leave home at that time, my family put them in the cellar for safe-keeping, and when I returned home only three of them were alive. I would never put Verbenas in a damp cellar, or any cellar; it is a plant that will either grow or die. I have tried wintering Verbenas in three different cellars, but never with success. Of the remaining three plants that lived, I was amply repaid for my trouble. They grew and bloomed beautifully in the winter, filling the room with their fragrance. One with two shades of pink was most beautiful.—
ESTHER B. DIMOCK, *Willington, Conn.*

PERENNIAL PHLOX.

The Perennial Phlox is a floral treasure. It is more easily managed, gives a quicker and surer return, displays greater masses of color than Lilies, Pæonies, or Roses, and this is saying a great deal; and when we take into consideration the fact that it is perfectly hardy, stately in habit, and of a wide range of shades and colors, it seems strange that it should still



PHLOX SUBULATA.

beg the consideration of amateur florists. The different species are nearly all natives of North America. *P. decussata*, *P. maculata*, and *P. paniculata* are the original species from which most of the cultivated hybrids have sprung. The species as well as the varieties cross freely with each other, and this peculiarity has given us hundreds of varieties. Some of them bloom early, others late, and all bloom long; some of them are low, others are six feet high. It matters little whether they are planted in shade or sunshine. They like plenty of water, but will

do well with very little, for it is so hardy that it resists frost, drouth, disease, insects, grubs, and wire-worms.

The garden varieties are nearly divided into two sections, *P. decussata*, which is the tallest and strongest, beginning to bloom in July and continuing till hard frost, and *P. suffrutescens*, not quite so tall, but with very fine flowers, and beginning to bloom in May, continues until the *P. decussata* section begins. Both of these increase abundantly by offsets, and produce seed very freely. The seed should be sown as soon as ripe, and, if well grown, will show a few flowers the following autumn. In growing



PHLOX HYBRIDA.

Phlox from seed you never can tell what colors you will get; some may be colored like the parent, but no seed sports more readily, and you will be sure to get some prizes. It is not for the best good of the plant to let it run to seed, and the tops should be broken out as soon as they are done blooming. They also propagate readily from cuttings, provided the cuttings are taken before the flower-buds form. A plant that has its top taken off for cuttings, will send up a new growth from the root and flower late, so that it is easily possible to prolong the flowering season of those which bloom early.

The varieties range from the purest white to deepest crimson. Among them are self-colored, auriculated, striped, and variegated in many beautiful combinations. Their shades of color and habits of growth fit them for almost every purpose. For a floral pyramid, nothing is better. Plant the tallest in the center, and graduate down in stature and colors. Clumps in the border always look well, while, for an herbaceous hedge row, there is nothing to equal it. Single shoots, planted six inches apart in the row, will form a grand hedge in a year's time. The row may be of one kind, or several kinds, in which case, use the tallest kind for the center and graduate down with lower kinds. A little experience and study will enable any one to form a beautiful sky-line of graceful curves,

and what is more, the curves will be in colors, in fact, miniature rainbows.

There is only one hint with regard to the successful culture of the Perennial Phlox, and that is, plant it—after which it will take care of itself; and the best way to get the best effect, is to order the plants from some good florist, stating the purpose for which they are wanted.

I cannot close this article without mentioning *P. subulata*, commonly known as the Moss Pink. This species is so distinct every way that it is not easy to realize that it is a Phlox; it has pink flowers, and its variety, *P. S. nivalis*, white flowers. They grow about five inches high, are evergreen, and are completely covered with flowers. A better plant for carpeting Lily or Rose beds, for purposes of beauty or shading the ground, could not be made to order, and it is perfectly hardy. A new variety, or it may prove to be a new species, has lately been brought to notice. It has purple flowers, and is said to bloom in both spring and autumn. If such is the case, and if it will stand our winters, it must be a treasure. It is said to be a native of Georgia, and may be tender in the north. All Phloxes do best planted in April.—E. H., *LeRoy, N. Y.*

A WINTER GREENERY.

JAMES VICK:—I have often wished to tell you of my success with plants, and, could I obtain a correct picture of my bay windows, I think it would be worthy a place in the *MAGAZINE*. This winter I have about one hundred pots of plants, and the care of them affords me much pleasure. Two bay windows, one at the east and the other at the south, far enough from the stove to avoid the dry heat, afford me fine situations for plants, and, with good food and drink, and good, pure air, there is no excuse for them if they are not in a good condition. I have a Wax Plant of which I am particularly proud. It is ten or twelve years old, on a trellis eight or nine feet high, completely filling one end of the window. The plant is a very free bloomer, usually being in blossom between five and six months, beginning the middle of April, and having about seventy bunches, the same ones filling a second time and blossoming the same season. It has not been moved from its position in two years, except to give it a bath occasionally. Last spring I sent for a collection of Carnations, also of Begonias. Dividing with a friend, I have five of each. The Carnations are healthy, strong plants; three of them have been in blossom the entire winter, charming me with their beauty and fragrance. Begonias are among my favorites, and I have ten or more varieties, beautiful both in foliage and flower.

My *Coleus* I kept, during the summer, in the south window, giving it the hot sun the entire season, the result being that they this winter exceed any I have ever had, for beauty and size. At present I have in blossom, Candytuft, Phlox, Hyacinths, Primroses, Oxalis, Geraniums, Begonias, Carnations, Abutilon, Callas, and last, but not least, an *Amaryllis Johnsonii*, two months earlier than I have ever had one in blossom previously.—C. E. G., *St. Johns, Mich.*

THE GREEN THINGS GROWING.

One might naturally suppose that gardens existed chiefly for the pleasure and profit of their owners, but it is not always so. Many people cultivate flowers for show, and in some neighborhoods there is quite a fierce rivalry among the amateur florists.

"I don't feel like doing anything in my garden this spring. I was over at Mrs. Pæony's the other day, and it just discouraged me. Her flowers are so fine, and she has almost everything that you can think of." Thus, little Mrs. Honeysuckle; and sure enough she does nothing, but leaves her grounds to Dandelions and grass because, forsooth, she fears to enter into competition with her showy neighbor.

One old lady, a regular Grandmother Eve, cannot bear to hear of any garden but her own. If somebody happens to mention a successful rival, she has one formula which she seems to think settles every question: "Yes, yes; Polly Primrose has a good many flowers, but they are all very *common*."

There is a mincing style of gardening much in vogue at the present time—a straining after effect—a flaunting of flowers that is really painful, the poor pretty things being oftentimes made to take on forms never intended by nature.

This fashion is not new, by any means. They had something similar so long ago as Bacon's time, as witness the following from his "Garden:" "As for the making of knots, or figures, with divers-colored earths, that they may lie under the windows of the house on that side on which the garden stands, they be but toys: you may see as good sights many times in tarts." And again: "For the ordering of the ground witness the great hedge. I leave it to variety of device, advising, nevertheless, that whatever form you cast it into first, it be not too busy or full of work; wherein I for my part do not like images cut out in Juniper or other garden stuff—they be for children." My mind reverted to the above remarks on seeing recently in a garden of considerable pretension crosses covered with dried moss and strongly suggestive of Spaulding's glue; beds adorned with shells, and quantities of bright pebbles strewn about pro-

miscuously on the grass. Truly these things "be for children."

The too "busy" gardener has her antipode in the spasmodic gardener. She—the spasmodic gardener is always a she—makes a raid among her plants once a fortnight or so, roots out the weeds, hoes the flowers, and leaves the beds looking as if a hen and her chickens had been foraging among them. One seems tempted to say to her and others of her ilk: "Dear Madam, or Dear Mesdames, if you have not the time or the inclination to take proper care of your flowers, better not have any at all. A plain green sward is more pleasing to the eye than a motly herd of unkempt flowers."

A weed should never be allowed to rear its head, much less to attain a full growth, in a flower bed, and if the gardener does his duty there will be no weeds any more than snakes in his demesne. If the ground is stirred frequently the seeds of weeds will not germinate; and besides, a loose soil is absolutely necessary to the well-being of the flowers themselves. A soil only moderately rich, if well worked, will give good flowers, the action of the air being highly beneficial, but if the earth is permitted to bake or pack, it becomes impervious to the air as well as the dew, and even the rain will most of it run off instead of soaking in. I once noticed a border which appeared to be very rich, but the plants in which were poor and spindling. I wondered much to myself about it, for the flowers were regular starlings, and yet the ground looked like a hot-bed. One day the owner in my presence undertook to dig up a plant of some sort and the enigma was solved. The bed was of tough clay, with merely a sprinkling of soil from an old hot-bed on top. Human beings may be deceived by appearances, but you cannot cheat Dame Nature.

To get the full benefit of a garden in the north, it must be set agoing betimes. The cheery Crocus comes about the first of March, and to keep her company there are the Grape Hyacinths and the lovely little *Scilla Siberica*; in April the Daffodill, Snowdrop, Violet, Heartsease and Hyacinth proper appear; in May the Tulips bloom, Daisies, Pinks and the Lily-of-the-Valley. Now our gardens should be swept and garnished to receive these first-comers, the most welcome blossoms of the year. The grass must be kept shorn and free of weeds; the walks clean, and the spaces reserved for late bedding-plants should be raked smooth. These barren spots, when in good order, are quite attractive, the rich brown of the mould contrasting agreeably with the tender green of the young leafage and freshly-springing grass.

It is a current superstition in some places that

you must not sow flower-seeds in the open ground until the fruit trees are in bloom, and good Mrs. Homespun gets out her seed-boxes when the first bluebird sets her to dreaming of posy time, sorts the contents, digs her beds, and then sits down to wait for the Cherry-blows before a seed is put into the ground. At the same time her early vegetables are in a good state of forwardness, though she does not think of planting Tomatoes and Cucumbers for some weeks yet.

The same discrimination should be used in sowing flower seeds in the open ground or in seed-beds. Some, like Candytuft, Larkspur, *Nemophila*, *Mignonette* and Sweet Peas, correspond with table Peas, Lettuce and Onions and may be planted at the same time, while others, like the Balsam, *Zinnia* and *Ricinus* must wait for Corn-planting time. A good way to determine whether annuals are hardy in a given locality is to examine the beds in the spring where they grew the preceding year, and if you find volunteer seedlings you may be sure they are hardy, and you need not fear to plant as soon as the frost is out of the ground. I well remember when I first began to garden, how surprised I was to find the *Petunia* bed a perfect mass of seedlings the second year; so thick, indeed, that they had to be dug under later. I was still more astonished to see *Verbenas* come up without planting.

Many annuals do well if sown in the fall and the beds protected by leaves and the summer growths of the garden. This plan is a great help when there is a stress of spring work, or when the season is rainy or backward, as so often happens in the northern or middle States. —Miss E. E. M., *Green Tree, Pa.*

MY PET WINDOW-PLANT.

MR. VICK:—Day after day I have watched and watered my little *Geranium*. When Jack Frost has ventured too near the window where it stands I have lifted it to a warmer spot; this have I done through the long days of winter, tending it as lovingly as a mother her child. I have found in this work something very pleasant, and have watched each little leaf unfold, until, at last, my eyes have been gladdened by the sight of a bud. Ah! now I have the promise of hope, and redouble my care of the precious plant, watering it oftener, and carrying it from one window to another, so that it may catch the beams of the warm sun that strengthens the young shoots. It takes a long time to bloom; weeks elapse, and then the flowers burst out in their full glory. All, young and old, admire them, and exclaim, how lovely! how exquisite! But they know nothing of the

quiet happiness in my heart, for I have earned the right to enjoy its glorious beauty. Reluctantly I take off one tender petal and place it under the microscope, and the sight that meets my gaze draws me near to the great Creator with a feeling of awe; for here, on this small, red petal, are thousands, and thousands, and tens of thousands of little rings, each one wonderfully distinct and glistening like a diamond.—M. H. S.

PANSIES.

"The little purple Pansy brings
Thoughts of the sweetest, saddest things."

Spring has come! How her approach gladdens the heart; but I would not have it always spring. How one enjoys the coming and going of the seasons; watching the gradual and almost imperceptible changing of one season into another; old winter little by little loosening his icy hold for spring; modest, refreshing spring cheerfully giving way for her hot, impetuous sister, summer; summer wrapping her mantle of hazy atmosphere about her, lulled by the whirl of lazy insects, seeming perfectly satisfied to relinquish her incomplete labors to autumn; the sweet sadness with which autumn, the richest of the four, sacrifices her brilliant jewels to the rough, merciless hands of winter.

Spring time carries one back to childhood, and seems to give a new lease of life. We forget for a time to watch the deepening of the inevitable crow-feet about the eyes, or to count the grey hairs on the temples. How delightful is the first gardening—looking over the seeds in the fresh, sweet soil. I always feel a pity for those persons whose love of experimenting with old mother earth ceased with the manufacture of mud pies and marbles.

To have vigorous Pansy plants that will bloom early, they must be started in artificial heat, long before the ground is warm enough for flower seeds. When ready for transplanting, select a place in the border that has the morning and late afternoon sun only; make it mellow and rich—Pansies love richness. How wonderfully they have been improved in a short time by cultivation. A few years ago we had nothing but the little, old-fashioned Johnny-jump-up; now they are marvelously increased in size, and appear in every diversity of color, from pure white to jet-black, yellow, royal purple, striped and mottled, violet, bronze, sky-blue, navy-blue, &c.

Blessed be Pansies! If I could have but one kind of flower, that one would be Pansies. They are the first to greet one in the spring; before any other flower dare appear, here are the Pansies looking up with their cheerful,

knowing faces, and they are the last to desert in autumn; long after the flowers have departed with the sere and yellow leaf, they linger to console and comfort. They are constant, thankful, affectionate. I always want to talk to them just as I would to a bright child. I have seen many human countenances that did not possess as much intelligent expression as a group of Pansies.

Do cultivate a bed of Pansies for the sake of the little children. If you are not blessed with "little hindering things" of your own, do this much for somebody else's child. Children are great lovers of flowers, and I have observed that Pansies are an especial favorite with them. How many little hands I have filled with them—little chubby, dimpled hands; little thin, wasted hands; little hands warm with young life, and little hands cold and still. There are little hands filled with flowers that will not come to me again, but will gather fadeless flowers from a garden fairer than mine, on the banks of the River of Life.—AUNT FANNY, *Morningside*.

WHITE WATER-LILY.

MR. VICK:—I would like to say a few words in favor of the *Nymphaea odorata*. In the spring of 1877 a friend gave me a small crown, and I put into a tub a little larger than a pail, and it had six blossoms. The next spring, 1878, my husband made me a pond about five feet across and two feet deep in the center. It was very late before I got the root into it, but it had fifteen blossoms. Last season, 1879, its blooming was almost marvellous; one week it had seven blossoms every day but one; that day it had six. Some days it had eight flowers, and in all it had fifty-eight blossoms. I did not change the water, but when it dried away and it did not rain to fill it, I would put in a few pailfuls. I had fish and snails in the pond. A year ago this winter I did not cover it over, and the fish all died; last fall I covered it and put in a piece of stove-pipe to let in air for the fish. I cannot tell how it will come out this spring. My pond is made of cement over stone and brick; the cement is made of gravel and water-lime. It is not expensive, and if it were the beautiful Lilies would be payment in full. I think every lover of flowers would be pleased with a Water Lily.—H. E. R., *Rome, Ohio*.

QUITE PLEASANT.—My Sweet Alyssum last summer was splendid, one paper of seeds giving plants enough to cover a bed six feet in diameter, and nothing could be seen but white. This, with the new Dwarf Aster, I used for the cemetery, forming letters with the latter.—S. L.



LONDON MARKET PLANTS.

A correspondent of the *Gardeners' Chronicle*, writing of plants sold in London market, says: "Ficus elastica, India-rubber Plant, which is so much in favor for London, thriving where little else will do, is at Messrs. BECKWITH's grown in quantity; 10,000 of it are yearly propagated, grown on and sold; and about 1000 *Aspidistra lurida variegata*, quite equal to the last for keeping long in good presentable condition where few things can live at all. It is a plant always in demand in the market, but does not propagate as quickly as some things. Five thousand of the elegant Fern-like *Grevillea robusta* are annually raised from seed, and grown on to a height of about fifteen or eighteen inches before being sent to market. Of Ferns, *Adiantum cuneatum* is the principal kind cultivated, and of this some 10,000 good-sized plants are kept to cut from—managed in a way that best suits buyers, by growing it in a manner to keep the pinnules small, so as not to hide too much the flowers with which it is arranged. A very large house is filled with *Crotons* and *Dracænas*. The *Dracænas* are mostly confined to a few kinds, of which *D. terminalis* and *D. terminalis stricta*, amongst the colored-leaved kinds, are the principal, and *D. rubra*, a plant that can scarcely be surpassed for general decorative purposes. About 2000 examples of the variegated *Cyperus alternifolius* are yearly got through.

"In *Chrysanthemums* for cut flowers 16,000 pots, three plants in each pot, of the white Japanese variety, *Elaine*, alone are grown; and 20,000 pots, also three plants in each, of other sorts, the principal of which are Mrs. George Rundle, white, and the two sports it has produced, *George Glenny*, primrose; and Mrs. Dixon, yellow; also *Madame Martha*, white. These are grown very strong and in large pots, so as to produce a plentiful crop of bloom.

"The number of bulbs forced could hardly be credited by those who have not an opportunity of seeing the quantities that are got through in the market and the vast number of

shops where flowers and plants are sold in London and its suburbs. Tulips head the list with 100,000; the rose and the scarlet varieties of *Van Thol*, for cutting, are forced in boxes. The flowers are up and ready to sell in a fortnight after the bulbs are put in heat; mats are kept on the roofs of houses where they are forced, to draw the stalks out sufficiently. These two varieties are first in. Others grown consist of *White Pottebakker*, *Rose Grisdeline*, *Moliere*, and *Tournesol*.

"Twenty thousand Roman Hyacinths and 40,000 large-flowered kinds are annually disposed of, the former giving a supply up to the end of the old year, and the large-bloomed ones meeting them at the beginning of the new. The sorts grown are all single flowers, except one, *La Tour d'Auvergne*, white. They comprise *Homerus*, red; *Lord Macaulay*, red; *Amy*, red; *Grande Vedette*, white; *Charles Dickens*, blue; *Grand Lilas*, blue; *Alba superbissima*, white; *Mimosa*, purple, &c. They are mostly grown one bulb in a pot, and when well rooted are placed in heat, with a small handful of cocoa-nut fibre on the top of each, put so as to cover the blanched crown, which, growing through the material, thus becomes inured to the light. Sixteen thousand paper-white *Narcissus* are required. Ten thousand bulbs of *Lilium longiflorum* and its variety, *eximium*, the latter much the best, are yearly flowered. Five thousand *Hoteias* are forced; 4000 *Genista fragrans* were just moved into their blooming-pots—choice, bushy stock, that will make beautiful plants by the end of summer. This is a subject for which there is always a good demand.

"As might naturally be supposed, manure-water is largely employed here, as in all the market gardens. Without its aid it would not be possible to produce the comparatively large, fully-furnished plants, that are grown in the very small pots; the stimulant most used by Messrs. BECKWITH is urine from the cowsheds; to obtain this they arrange with some half-dozen dairymen in the neighborhood to have it in an

undiluted state, for which purpose a cesspool is made inside the sheds, the contents of which are removed once a week. For most things it is used at the strength of about a pint to two gallons of clean water; gross feeders, like *Chrysanthemums*, bear it as strong as one part to six of water. I can speak confidently of this being the most effective of all liquid-manures, not only for soft-wooded plants, but also for all hard-wooded stove subjects and such of the cooler or greenhouse section as grow moderately fast. Its effects are almost magical, and have been found to be so by the many whom I have advised to try it; but it should be got in its pure state, not mixed with soakings from the manure-heap. What I have particularly noticed in connection with its use is that plants to which it is applied, either hard or soft wooded, do not run to excess of leaf as they do when most other liquid stimulants are given, but have a disposition to flower almost in excess of the growth they make, although the latter is of the stoutest possible description. Neither do the plants show any inclination to stop after a time where it has been used, as is often noticed to be the case when other things of a highly stimulating nature have been given. Like everything else employed for a similar purpose, it needs to be used with care and discrimination, so as not to give it disproportionately strong to the kind of plant it is applied to, and, what is of almost as much importance, its use must be regulated by giving more or less according to the particular stage of growth the plant is in."

FIR-TREE OIL TO DESTROY INSECTS.

A substance called soluble Fir-tree oil has lately been found, in England, to be of the greatest service in the destruction of insects, and bids fair to take the place of many other agents now used for the same purpose. We do not know exactly the process of the preparation of this oil nor have we heard of its use in this country, but, no doubt, it will soon be put on sale in this country, either by importation or by the enterprise of some of our manufacturing chemists. That it is really valuable, appears by very many reports of those who have tried it in various ways. One of them says: "Half a pint of Fir-tree oil to four gallons of water, if applied with a syringe or a vaporizer, will destroy green fly, red spider, the light-colored green fly on Plum trees, and the black fly which infests Cucumbers and Melons. Double that strength makes a good wash for plant scale, if gently rubbed on by means of a piece of sponge or a soft brush, and better than all, it effectually kills the two kinds of Gooseberry caterpillar

which have been more trouble to me than all other pests together.

"And now, what about injury to the plants? Well, I have used it on the most tender foliage I could find at double the strength necessary to kill any insect with which I am troubled, and in no case have I seen the slightest injury. Three days ago I gave it a severe trial, viz.: on the tender shoot of a forced Rose in the full sun, and the shoot received no injury whatever. This was used at the rate of half a pint to four gallons of water. I have drenched tender flowers, such as *Tuberoses* and *Stephanotis*, with it without the slightest injury. And now, as this is no new thing to me, I feel justified in giving it an unqualified recommendation, as being perfectly safe and, as far as I have tried it, perfectly effectual. I have no mealy bug, and therefore can give no personal experience of its action on that terrible pest, but I strongly advise your readers to give it a trial on any insects with which they may be troubled. Its odor is not unpleasant, it mixes readily with either hot or cold water, has no sediment, and does not require washing off the plants."

KEEPING GRAPES.

In England they appear to be succeeding finely in keeping Grapes by bottling, as they call it. The method consists in inserting the cut end of the shoot to which the fruit is attached in a bottle of water, the purity of which is preserved by powdered charcoal. The *Journal of Horticulture* has the following:



"Relative to bottling Grapes, Mr. D. Cooms has sent us berries of Mrs. Pince and Black Alicante which have been cut from the vines for three months and three days. The laterals bearing the bunches were cut as long as possible, and inserted in bottles of water with about two tablespoonfuls of finely pounded charcoal placed in each bottle. The berries are as firm as when they were cut from the vines, and Mrs. Pince is of excellent quality."

Another correspondent of the same journal

writes: "I have had no difficulty in keeping them fresh and plump in bottles of water until April. They keep best in a cool, dry room with a north or easterly aspect. I feel no hesitation in saying that Grapes will keep better under the conditions described than they would on the vines. I have found nothing to answer better than soda-water bottles, with a piece of wire or string tied round the neck. In cutting Grapes for this purpose I always leave plenty of wood. If there is a cross-beam in the room, all that is required is to drive in a few nails to hang the bottles on. The bunches need only just hang clear of the necks of the bottles, the weight of the former will balance the bottles. This plan is so simple that it must commend itself to all who have Grapes to bottle."

ENGLISH SPARROWS.

According to the following interesting and practical items from an English journal, we may learn what to expect from the saucy, little, feathered foreigner that is multiplying his species so rapidly in this country: "Owing to the mild weather, Gooseberry buds are swelling fast. Now is the time to keep a watchful eye on Sparrows and Bullfinches near towns. The former do more damage than the latter. Not a day should be lost in taking precautionary measures."

Another writer says: "The Sparrows begin as soon as the first yellow Crocus is open in my garden, and pull the flowers from nearly every Primrose, Polyanthus and Daisy, and I have certainly seen Greenfinches helping them. If these birds or Chaffinches can get at a seed bed in the kitchen garden they will draw every plant as it pushes through the soil, thinking nothing of creeping through the meshes of a net."

WINTER-FLOWERING GERANIUMS.

An Amateur writing to us on Zonal Pelargoniums in winter, states that plants which won first prizes at local shows in the summer were blooming with great freedom at Christmas and onwards. The following was the method of treatment adopted: The blooms were all cut off at the end of August, and the plants placed out of doors for a month, when they were removed to a house and treated liberally, with abundance of flowers as a result. Recently the blooms were removed a second time for a fresh start. The varieties that proved most useful were Vesuvius, New Life, and an old variety named Sensation, which, it is stated, should be in every large collection, especially where cut flowers are in demand for bouquets, &c.—*Journal of Horticulture*.

CELERIAC.

The following notice of the Turnip-rooted Celery, in the *London Garden*, if it had been written for people of English descent in this country, would have been quite appropriate: "This, in England, is supposed to be a curiosity only, a sort of salad, but it really is so good that it is quite a loss to our gardens that we do not grow it well and regularly. As a dish, properly cooked, it is really far before the majority of vegetables. I notice some in Covent Garden, imported, and at this season it is a most useful addition to a choice dinner."

Our German population make a great deal of



this vegetable, and, no doubt, those of us unacquainted with it have yet to learn that it has really valuable qualities. The favorite method of preparation is to cook the root in soup, slice it and eat with salt, pepper and vinegar. The roots are kept during winter by divesting them of their leaves when dug in the fall and storing them away in sand in the cellar, or burying in the soil in a sandy, dry spot in the garden, and protecting from frost with a covering of leaves.

FROM PERSIA.—The Calla bulb you sent me last spring has become a large plant, and is almost in bloom. The Tuberose gave over twenty blossoms, and the Yam made a very pretty vine. We feel grateful for what you do to beautify our Persian homes. What you send seems to reach us as safely and in as good condition as if we were in the United States, and gives us a hundred fold more pleasure in their growth and beauty than can be expressed by those who have civilization and refinement on every hand, and lovely things to see every day.—LORETTA C. VAN HOOK, *Tabreez, Persia*.



PLEASANT GOSSIP.

SUB-TROPICAL BEDS.

Among the many modern devices for ornamenting our gardens and lawns there is nothing more graceful, and few things so beautiful as the sub-tropical bed. It is composed of plants natural to a warm, or sub-tropical climate, but yet which may, with a little management, be made to succeed admirably in any place where Indian Corn will grow. These beds give our grounds an oriental, or rather, a tropical appearance that is quite charming. So many have been the enquiries on this subject that we determined to give our readers a better idea of these beds than could be done by an engraving, and have, therefore, prepared a colored plate which, we think, will make the subject quite plain, at the same time prove an ornament to our MAGAZINE.

The bedding system of gardening has been popular for many years, and certainly has its advantages, though somewhat stiff and artificial. We wish our lawns to look well from May until November, consequently, if we make flower-beds on them, they must be filled with plants that will keep in bloom all through the summer, and that will bear the hot sun and rains and wind without material injury. The principal flowering plants used for the beds are the Scarlet Geraniums, several varieties of which give abundance of brilliant scarlet flowers, forming almost a perfect mass. The principal ornamental-leaved plants used for forming these beds are the Variegated-leaved Geraniums, Achyranthes, Coleus, Centaureas, and Golden Pyrethrum. The Achyranthes is a darkish-purple or maroon, the Coleus gives a very wide range of color, Centaurea is ashy-white, and Golden Pyrethrum, yellow. It will be readily seen that, with such material, most charming and enduring ornamental beds may be produced.

Our purpose at this time, however, is to speak of what are known as sub-tropical beds, those which give us a taste of the luxuriance and glory of tropical foliage, and, on lawns of sufficient size, nothing we are acquainted with will afford more pleasure. These beds, of

course, can be made of any size, according to taste, the dimensions of the lawn, or the positions in which they are to be placed; the one from which our colored plate was taken was fourteen feet in diameter. The tall plants in the center our readers will recognize as the Ricinus. Three or four of these plants will be sufficient for the center of a pretty large bed. The seeds can be obtained for ten cents, and should be planted as soon as the weather is warm enough in the spring—about Corn-planting time. Planted around the Ricinus are about ten Cannas, eighteen inches apart. The next row, about the same number of Caladiums, twenty-four to thirty inches apart. Thirty Coleus plants form the next row, while the outer one is composed of Centaurea grymnocarpa, about forty of which will be needed for the purpose. All of these plants and roots can be obtained for \$2.00 per dozen, and at a less price where so many are taken. Any florist, we think, would supply plants for this bed, fourteen feet in diameter, for nine or ten dollars, and the Cannas and Caladiums would be good for another season, if stored away from the frost during winter. The cost of smaller beds, or those of any size, may be determined by the figures we have given.

EARLY MELONS AND BEANS.—I would call attention of your readers to a method I have long practiced in starting Lima Beans, Melons, and Cucumbers early. It is not new, but I know very few who have adopted it, and it may prove of service to some one this spring. With a sharp spade I cut some pieces of turf, from a rich soil, in pieces about four inches square and three inches thick; these I place bottom side up in a cold frame, and in each stick two Beans or Melon seeds and cover lightly with soil. The young plants soon appear and advance rapidly. When the weather is suitable, the pieces of turf are removed to the places the plants are to occupy. The young plants scarcely feel the shift, and valuable time is gained.—W., Ovid, N. Y.

MY HOT-BED.

The lovely spring will soon be here
With budding flow'rs, our hearts to cheer.
Look down your list, see what you need,
Then send to VICK and get the seed.

The hot-bed now must be prepared,
That tender plants from seed be rear'd;
And to promote their early growth
It should be made to face the south.

Then make the bed the size you need,
According to your plants or seed.
It may be long, but not too wide,
As you will see by FLORAL GUIDE.

My plan, last year, you could not guess,
And one that proved a great success.
'Tis with this hope we always look
When e'er we read VICK's monthly book.

A packing chest, both firm and strong,
From three feet wide to five feet long,
And three feet deep, well bound together,
And made to stand all kinds of weather.

The ends I saw'd, to make them steep,
Likewise the front twelve inches deep;
Then took a spade and sank it down
Full half its depth into the ground.

I left a space, because 'tis best
To pack dry leaves outside the chest;
I find that these, which nothing cost,
Will save the heat and keep out frost.

The outside now being made secure,
I next put in some horse manure;
Although in depth not quite two feet,
It soon sent up a steaming heat.

To let the fiery heat escape,
I turned it once and gave a shake,
Put on the sash, same as before,
And kept it clos'd for two days more.

When settled down, this gave me room
For half a foot of good, rich loam;
This press'd I firmly down by hand,
And sifted over all some sand.

Then, with a narrow strip of pine,
I press'd across to make a line,
And thus the drills were plainly seen,
Three inches space being left between.

The smallest seeds put on the right,
Because their covering should be light.
The hardy kinds, and larger seed,
A little deeper, as they need.

Full twenty-five of different sorts,
Some in whole drills and some in parts.
They all came up, save three or four,
The seed of two years old or more.

If spring be late, with snow and frost,
Then cover well, that none be lost;
But, if it should be warm and fair,
Throw up the sash and give them air.

Then, as the season draws along,
Thin out the plants, to make them strong;
Next plant in beds, and give them room;
They soon will then begin to bloom.

—L. OAKLEY, *Newburgh, N. Y.*

JAPAN QUINCE HEDGE—TARRAGON.

1. How long should it be, under favorable circumstances, for the Japan Quince to grow high enough to make a good hedge from seed; and how much seed would be required to enclose a quarter of an acre of ground?

2. What part of Tarragon is used for flavoring vinegar, and how is it prepared? I have tried many recipes, but never met with any success. My preparations all tasted like sour, dirty water, and not in the least like the Tarragon vinegar and mixed Mustard I have tasted abroad.—S. M. G. *Dixon, Ill.*

1. The practical way of starting a hedge of Japan Quince is to procure the plants ready-grown by the nurseryman, and not attempt to raise them from seed. In fact, except in some very unusual cases, this latter method would be impossible to most of us, for the seed is not offered for sale in this country. At the nurseries it is propagated from cuttings of the roots. The European nurserymen procure seed of it, to a limited extent, and raise some seedlings. Plants two or three years old are suitable for the hedge-row, and should be set six inches apart in a straight line. Five or six years is required to make a good hedge.

2. The leaves of Tarragon are the part used for flavoring vinegar. The leaves steeped in vinegar impart to it their flavor. After steeping, the liquor should be strained, or, if desired, it may be filtered, to clarify it more completely.

CLIMBERS.

MR. VICK:—Will you please answer the following questions in your MAGAZINE:

1. What is the name of the enclosed seed? It is a climber that is hardy. The roots remain in the ground over winter.

2. Is there a *Spiræa* that is a climber? I have a plant that I bought two years ago for a *Spiræa callosa*. One of its branches measures seven feet six inches, and has thorns on like a rose. The end of one of the branches rested on the ground this winter, and I find it has taken root. Will enclose you a slip of it.—M. A. R., *Adams County, Pa.*

1. The seed is that of *Echinocystis lobata*, one of the Cucurbits, and is a very good climber.

2. We know of no climbing *Spiræa*, and cannot identify your plant from the piece of wood; it certainly is not *Spiræa callosa*. It looks like the stem of the Running Blackberry; but we offer no opinion about it.

MILDEW ON VERBENAS.

MR. VICK:—What is the cause of mildew on Verbenas, both in-doors in winter and out-doors in summer? We raise many, and they soon get full of mildew. Can you assign any reason?—C. G. H., *Abilene, Kansas.*

The Verbena is a native of Brazil, in a warm and humid climate; it is not perfectly adapted to our colder and changeable temperature. The sudden changes from warmth to cold constitute the active cause of mildew. The best preventive is to use seedling plants which, as a rule, are more vigorous than those raised by cuttings.

HEPATICA WITH DOUBLE FLOWERS.

MR. VICK :—In reading the February number of the *MAGAZINE* my attention was called to the communication of Miss A. B. S. on the *Hepatica triloba*, in which she speaks of a double, wild specimen, found near her home, which had nearly one hundred petals. I had, perhaps erroneously, always thought that wild flowers in a state of nature, unassisted by cultivation, were single, and that double flowers were the florists' and amateur's triumph. I have gathered many specimens of wild flowers for botanical analysis, from field and meadow, hillside and mountain top, but have never found a double one, or one that had the least disposition to double.

Now, Mr. VICK, you who are supposed to know all about plants and flowers, from the "Cedar of Lebanon down to the Hyssop that groweth on the wall," and to whom we all turn for light in our flower troubles as naturally as the flower turns to the sun, I appeal to you for an answer to this, that to me is a vexed question, Are there any double wild flowers?—M. A. K. M., *Middletown Valley, Md.*

Naturally of a retiring disposition, our modesty would not allow us to be conspicuous merely for the purpose of being seen, or shining only to dazzle people's eyes, but we are always willing to let our light shine if one really wants to see by it; besides, how can we help it? The fact about the *Hepatica* is, that it is not at all uncommon to find it more or less double in a wild state, and what is true of this plant, in this particular, applies to many others. To be sure, double flowers are "the florists' and amateur's triumph," but they only indicate the taste and skill of those that perpetuate them, not at all acknowledging that they have received any new qualities from the cultivator. As Shakespeare so tersely expressed it

"This is an art
Which does mend nature: change it rather: but
The art itself is nature."

No plant reproduces itself exactly from seed; there is a tendency to change and variation in every part. The skillful cultivator can take advantage of any particularly desirable form that a plant has assumed and perpetuate it; more than this, he can select the most vigorous plants that are unusually developed in any particular part, and can cross-fertilize them with others so developed, and can select from the progeny of these plants those that have attained greatest perfection of the desired form. Thus, by attention to propagation for a few generations, he can, within certain limits, attain almost any result. But every operation is conducted in accordance with that great natural law of variability that governs both in the vegetable and in the animal kingdom. We think those of our readers who are sufficiently interested in this matter, and who have the opportunity to find the *Hepatica* in its native haunts, will have no difficulty in discovering them in a double or semi-double condition. We see com-

paratively few double flowers growing wild, because they bear less seed than perfect, or single flowers, and the plants produced from seeds of double, or partially double flowers are less vigorous than those from perfect flowers. Hence, in the survival of the fittest, the single-flowered plants hold predominance.

LOCALITIES OF *ASPIDIUM FILIX-MAS*.

MR. VICK :—In looking over your *MAGAZINE* for February, I see a note in which you state that the Fern called *filix-mas*, although not a common species, is distributed over a large part of this continent. This information rather surprises me, as I was the first to discover it here, I think, in 1873. It grows on debris of calcareous rocks, and is rather abundant in some spots. I was told at that time by many botanists that I had made a great discovery, as it had not been found elsewhere on this continent, except in one place, I think in the vicinity of the Rocky Mountains. It may have been since found in other localities, but I was not aware of the fact.

I have sent both roots and hundreds of dried specimens all over the United States. I should much like to have a specimen from the locality you name. On the same escapement of rocks surrounding Owen Sound Bay, we have *Scolopendrium vulgare*, *Aspidium lonchitis*, *Pellaea atropurpurea*, *P. gracilis*, *Woodsia ilvensis*, *Asplenium Trichomanes* and *A. viride*. The latter I also discovered in deep clefts of our rocks, and not found elsewhere in Canada.

I hope to receive some reliable information as to localities in the States where *filix-mas* has been found.—Mrs. J. D. Roy, *Royston Park, Ont.*

The note referred to above is entire as follows: "The species of Fern in question is *Aspidium filix-mas*. It is not a common species, although distributed over a large part of the continent at remote stations. It is found most plentifully above the parallel of 42° of latitude."

In making this statement, we had in mind Royston Park, and thought very pleasantly of Mrs. Roy and her untiring zeal in her favorite botanical pursuits, and knew also that GRAY gave Keweenaw Peninsula and westward as a locality, and then glanced at Wood's "Botanist and Florist," that happened to be within reach, and found his localities to be N. J. to Va. N. W. With these facts and the specimen from Oregon before us, we endeavored in a few words to convey to our readers a knowledge of the wide but not general distribution of this Fern. Referring now to the "Ferns of North America," which, of course, is the highest authority on this special subject, we find Prof. EATON saying:

"In one form or another, this species, *A. filix-mas*, occurs in America from Greenland to Peru. The ordinary European form has been collected in British Columbia by Dr. LYALL; Keweenaw Peninsula of Northern Michigan by Dr. ROBINS, and in the mountains of Colorado by Messrs. HALL and HARBOUR, and Mr. BRANDIGEE. Var. *incisum* was found at the base of

calcareous rocks at Royston Park, Owen Sound, Ontario, Canada, by Mrs. ROY, and in the mountains of Colorado by Dr. SCOVILL. * * Fragments of apparently the same form have been received from Dakota."

The probability is that as the country becomes populated and more persons are interested in our native plants, we shall learn of new stations where this Fern is found.

It is a pleasure to learn that *Scolopendrium vulgare* and *Asplenium viride* are found at Owen Sound.

NOTES OF WILD RAMBLES.

MR. JAMES VICK:—I have often wished for the "pen of a ready writer" to give you a description of the charming excursions we made to High Island, about four miles from Washington, D. C., last spring. The flora is so luxurious there. One day we gathered thirty species; among them, *Mertensia*, *Golden Corydalis*, white and yellow *Erythronium*, *Dicentra cucullaria* and *Trillium sessile*. To a lover of flowers a day spent on High Island would compensate for many disappointments in life. Sometimes one meets Dr. VASEY, of the Agricultural Department, and Prof. CHICKERING, getting treasures for the Herbarium. Miss SMITH, of the Normal School, and her interesting class often enjoyed the day there. It was a great pleasure to meet them, they were so enthusiastic over their work, and it was so thoroughly enjoyable. The expense, of getting there and returning was very trifling.

I long to be tramping with some of your correspondents who visit such charming places and find such lovely flowers. A few years ago, at Vernon, Sussex county, New Jersey, we found, growing near a brook, a lovely white flower veined with green. Near it were growing clusters of Fringed Gentian. After numerous inquiries I have just heard the name of the white flower, Grass of Parnassus. A lady, boarding in the same house with me, and knowing my passion for wild flowers, gave me some that she had gathered in Salisbury Connecticut. They were carefully pressed, and it was a great satisfaction to be told that the name of the flower we admired so much was the Grass of Parnassus. Perhaps they are rare. Last spring, on the banks of the Potomac, we found the *Chrysogonum*. It possesses one great attraction: the leaves are pretty, and the flower, which is yellow, keeps bright and fresh for a long time. I tried very hard to analyze it, but without success. So in a fit of desperation I carried the flower to the Agricultural Department, and Dr. VASEY, who seems so admirably fitted to fill his position, very kindly analyzed it for me. He said it belonged to the Composite family, and was somewhat difficult for a novice in botany to analyze.

I enclose a few of the flowers of the Grass of Parnassus that were gathered in Connecticut. A friend told me she had seen them growing in profusion in the Island of Orleans, near Quebec.

In one of your MAGAZINES you recommend linseed oil for preserving autumn leaves, but chromosole is very much better, and is used in the same manner that the oil is. If it were possible to paint the sheen on the leaves of the *Asarum*, or Wild Ginger, the flower and the leaves would make a pretty picture. The flower is a dull purple color, and odd looking. It seemed a great curiosity when I gathered it for the first time last spring. —L. M. McL., *New York*.

On receiving the specimens mentioned above, we found them to be *Parnassia Caroliniana*, and

from them have prepared the annexed engraving. It is a very pretty white or, rather, creamy white flower, growing on a tall, slender scape, or flower stem, some ten or fifteen inches high, that springs up from a cluster of oval, radical leaves. On the lower part of the scape is a single sessile leaf. The length of the scape in proportion to the size of the flower is so great that we show only the upper and lower parts. The petals of this flower are very regularly and prettily veined, and the venation is so distinct as to make it quite a noticeable feature even at first sight.



Another peculiarity of the flower is that it bears a group of three sterile filaments at the base of each petal, while alternating with each petal is a perfect stamen.

Parnassia is a genus of the Saxifrage family. *P. Caroliniana* grows as far north as this section. Besides this species there is *P. asarifolia*, or *Asarum-leaved Parnassia*, that grows in the mountainous regions of Virginia and Carolina. In the northern States, commonly found about bogs, is one called *P. palustris*. On the north-west shore of Lake Michigan and westward is another form called *P. parviflora*.

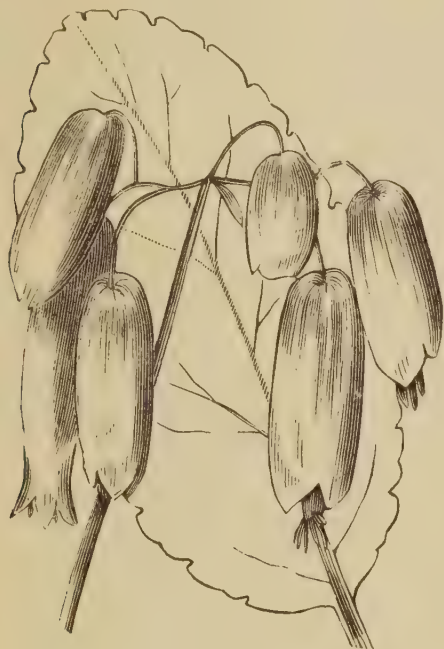
The name *Parnassia* is in allusion to Mount Parnassus, the fabulous abode of Apollo and the Muses, at the foot of which was the famed Castalian spring. The plant has received this name to indicate its beauty and grace, and was so named by Dioscorides, the noted old Greek physician.

BRYOPHYLLUM.

MR. VICK:—Accompanying this I send you a leaf and the blossom of a plant that I have had nearly two years. It has grown about five feet in height, and this the first of its producing anything but leaves. As it has grown in height, the lower leaves have fallen, so that now there are none except at the crown where the blossoms are. It came to me by the name of Air Plant, and as I have seen no description of it in any of the floral papers, I thought I would send you a leaf and blossom for you to name it. If you consider it worthy attention, please notice it in your next MAGAZINE.—S. E. S., *Berea, O.*

The specimen here alluded to is *Bryophyllum calycinum*, a plant closely related to the House-leeks and Stonecrops. It is originally from the tropical part of Africa, and, we should judge, is now pretty widely disseminated in this country, as it has several times been sent to us, and from different localities. The illustration

herewith will convey a very good idea of the appearance of the leaf and flowers. The flowers are in a loose panicle, and the most conspicuous part of each one is the calyx, and it is on this account it has received its appropriate specific name. The name, *Bryophyllum*, is from



two Greek words meaning a budding leaf. This name has been given it on account of the ease with which the leaf throws down roots and grows from each notch on its edge, when placed on damp soil. The calyx of the flower is from an inch to an inch and a half in length, thin, apparently inflated, green in color, with purplish stripes running from the base upwards. The throat of the calyx is four-pointed, and through and beyond it for a quarter or half an inch protrudes the four-pointed corolla, also tinged with purple, and much resembling the calyx. Although not showy, it is an interesting plant and of the simplest cultivation.

THE CLERODENDRON.

MR. VICK:—I should like to know what special treatment a *Clerodendron* needs; whether it should be pruned, and how often repotted. We had one which has done well until the past year, when the leaves nearly all dropped off and the blossoms do not come to perfection.—A. F. K., *Charlestown, Mass.*

The *Clerodendrons* are plants not difficult to cultivate, but to maintain them in health in this climate, need the advantage of a supply of artificial heat and moisture that are to be obtained only by a warm greenhouse. We are not told how the plants above mentioned have been kept, but suspect they have had ordinary house-treatment. If this is the case, it must not be expected that they should retain their vigor.

Pruning and potting are not panaceas, although very important operations, and whether a plant, at any particular time, needs to be subjected to either or both of them can be absolutely determined only by the inspection of the plant itself, by one skilled in its cultivation. As a general rule, a plant that has for a considerable time been in a failing condition and, consequently, has ceased entirely, or to any great extent, to make new roots, will be benefitted by repotting, usually into a pot of a smaller size. If any of the roots appear to have become diseased, they should be cut back to the sound portions. Recognizing now, the enfeebled condition of the plant, and its diminished root-power, it is evident that it is not capable of supporting as great a leaf-surface as when in good health; to restore, as nearly as possible, the equilibrium between the foliage and the root-power, pruning of the branches is indicated, and the manner of performing it will depend upon the judgment and experience of the operator. After adopting such measures to invigorate a feeble plant, it should be supplied with the conditions of heat and moisture as nearly as possible like those known to be required by it.

OTHONNA CRASSIFOLIA.

MR. VICK:—Will you please tell me the name of the pretty hanging basket plant I enclose?

What is the meaning of the word "zonale" that I so often see in flower catalogues in descriptions of *Geraniums*?—Miss A. J. B., *Gray, N. Y.*

The specimen received is a bit of *Othonna crassifolia*, a very interesting and graceful trailing plant, admirably adapted to basket and vase cultivation. The leaves, which are only about half an inch in length, are thick and fleshy, like the *Mesembryanthemum* and *House-leeks*. It is a composite plant, and the little yellow flowers are produced in small heads. It is not at all difficult to raise, and with ordinary care will not fail to make a good showing for itself.

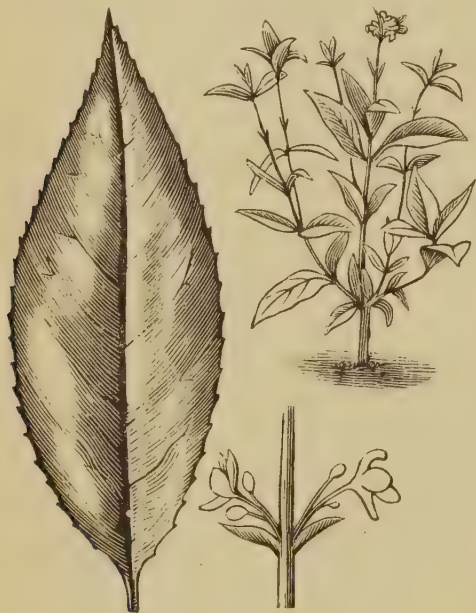
The word *zonale* is the Latin form of the word *zonal*, that is, pertaining or relating to a zone. In the case of *Pelargoniums*, it refers to the dark ring seen on the leaves of some kinds.



THE FRAGRANT OLIVE.

MR. JAMES VICK:—Will you kindly favor the readers of the MAGAZINE in this vicinity with an illustration and description of *Olea fragrans*, the Fragrant Tea Olive, that flourishes so admirably in Florida, the land of flowers, where it is a general favorite. An eminent authority in this locality on floriculture says that he read that the immortal Linnæus compared its delightful fragrance to that of ambrosia. What a charming shrub it must be! It will greatly enlighten me and many friends if you will give some information about it through your columns.—ROSEDALE, *New York City*.

Olea fragrans, meaning fragrant Olive, is closely related to the common Olive tree, but by some botanists it is separated from the genus *Olea*, and called *Osmanthus fragrans*. Whether this should be so or not is still a question, and it retains, almost everywhere, its old name.



This plant was brought from China into Europe in 1771. It is a handsome greenhouse shrub, attaining, in favorable circumstances, a height of five or six feet. Our illustration shows a leaf and flowers of natural size, as well as a sketch of a diminished plant. The latter, however, is of a young plant, and does no justice to a large and well-grown specimen. The leaf is thick and leathery, dark green, shining, and persistent, so that the shrub is always abundantly clothed with its beautiful foliage. The little white flowers, borne in winter, are deliciously fragrant, and are used by the Chinese to impart a flavor to tea. The plant is of the easiest culture, requiring only a cool house and moist atmosphere, about the same as Camellias and Rhododendrons. It is easily propagated by cuttings of the ripened wood, struck in sand, with bottom heat. It needs a light, open soil, composed of about three parts of good fresh loam, two of leaf-mold and one of sand, with

an additional one of old manure. It is subject to a white scale if kept in a dry atmosphere or if neglected; attention to washing and syringing the foliage will prevent it. In the hands of a good cultivator it is a very satisfactory house-plant.

CALLA—HYACINTH BULBS.

MR. VICK:—1. How shall I treat a young Calla Lily through the summer in order to have it bloom next winter. I have never had one before. Am anxious to be successful.

2. I saw an article on treatment in February number. Would you recommend so large a crock without drainage, as it seems that was to hold water on the top.

3. Are Hyacinth bulbs worthless after blooming?—MRS. A., *Gardner, Kansas*.

1. There is no better summer treatment of a Calla than to plant it in the garden, and leave it there until August or September, when it may be potted for winter.

2. The statement of C. W. T., on page 56, that you refer to does not seem to require explanation. The thriftiness of the plant is sufficient proof of the excellence of the treatment. It is not the common method, which is to supply water by a saucer underneath a pot having drainage. This appears to be the more natural way, but, evidently, drainage is a matter of small importance with the *Richardia*.

3. Hyacinth bulbs gradually deteriorate after blooming. If flowered in water, they are not worth saving afterwards. Pot plants, after blooming, may be turned into the garden in the spring, and will give inferior spikes for a few years. Bulbs always grown in the open border will remain tolerably good longer than in any other way, but the spikes will generally become smaller, with fewer and smaller flowers.

CALLA ROTTING.

MR. VICK:—In the fall of 1878 I purchased a fine Calla Lily, which did very well, blooming until the spring, when I let it die down and put it in a dry place. I took it out this fall and started it. For a few weeks it seemed to do well, but suddenly stopped, and on taking it up I found the root had begun to rot. Can you tell the reason, and suggest any remedy? Please publish in the April number of your MAGAZINE.—H. H., *Chicago, Ill.*

The practical remedy in this case would be to throw away the plant and procure a sound one. Calla tubers are so cheap that, except as an experiment, it would be useless to spend time trying to recover one that is seriously affected. Possibly this might be done, if the disease has not already progressed too far, and is caused by some injury produced by an insect or other means. Removing all the decayed portion by cutting to the sound part of the tuber may enable it to recover, but its chances are doubtful. The Calla, with proper treatment, is possessed of much vigor, and is usually able to overcome slight injuries and wounds.

FERN TRANSPARENCIES.

MR. VICK:—As my communication of last month on preparing Fern transparencies for winter decoration will not so truly convey to your mind the beautiful appearance as the object itself, I thought I would send a sample, to give you a correct idea of them. I am sorry to say it is not a very good specimen, as I have made up and given away all the best of my Ferns.—MRS. M. FINLEY, *Canandaigua, N. Y.*

Mrs F. will please accept our thanks for this really handsome ornament. The illustration of it here presented can only slightly convey to our



readers an idea of its grace and delicacy. For decorative purposes, we cannot imagine a better method of preparing and displaying Fern fronds, and advise those who admire these elegant objects to mount them in this manner.

SCALE INSECTS—SOIL FOR GERANIUMS.

MR. VICK:—I have a Lemon tree two feet high. What shall I put on it to keep off a little, soft, scaly insect?

What kind of soil will Geraniums grow in?—MRS. J. Z. P., *Sidney, Ohio.*

Washing the tree with water and soft soap, or, better still, whale-oil soap, using a soft brush wherever any insects are lodged, will effectually clear the tree. Some take a small camel's hair brush and, dipping it in alcohol, touch the insects with it, which instantly kills them. Kerosene oil is also used effectively in the proportion of a tablespoonful to two gallons of water, thrown on with a syringe, sprinkler or atomizer. It is necessary to be very careful to thoroughly mix the oil with the water, as it naturally lies on the surface. This is done best by drawing the liquid into the syringe or sprinkler and throwing it back again as forcibly as possible, repeating the operation three or four times before using a syringe. By this process the oil and water are mingled together.

The Geranium likes a strong, rich soil, and further than this is not very particular. In potting, we use two parts of good, strong loam to one of leaf mold, with a small addition of sand and a little old rotten manure, all well mixed together.

CALLAS, PANSIES AND PETUNIAS.

MR. VICK:—Is the summer treatment of Callas described by *Ficus Elastica* in the March number of your MAGAZINE, page 87, really the best? What do you think of letting the plants dry up and repotting in the fall? The fact of one Calla having seven blossoms on at one time, and twenty during the winter, seems to me a real prodigy. Is this wonderful prolificness mainly the result of planting out during the summer? Answer through the MAGAZINE when convenient.

Allow me also a word about the cultivation of Pansies. You sent me your complete collection last fall. The seeds sown in September with great care grew very well. I transplanted as many as I could in a cold-frame, and they commenced to bloom toward the latter part of February, and now, in March, I can keep constantly a fine bouquet of them in our College Chapel. I am well pleased already with the variety and size, but I know that when the weather allows to plant them out in an open border the result will be far better, especially in profusion of blossoms. I will, as I did last spring, plant them a foot apart. Later in the spring, I will set Petunias, or sow other flowers which will keep blooming during the whole season, between the Pansies. The latter I will destroy when they have lost their first vigor, and so my border will keep nice until the frost sets in. These remarks are intended to show that the best method of cultivating Pansies is the one above described. When the weather gets very hot it is difficult, if not impossible, to keep a bed of Pansies to advantage; hence the utility of filling the ground with some other plants. To rely on fall blossoms is hazardous; at any rate, the success cannot be as good as in the spring. The cold-frame is likewise very useful. I planted some Pansies in the open ground, in a sheltered place, where they kept pretty well during the winter, but they can bear no comparison with those I kept under the glass. I must add that I kept the glass covering on them only when the weather was very cold.

I have followed the same system for Snapdragon culture, and I have now in my frame the finest young plants one can desire. As soon as prudent, I shall make a bed of them, and I know that it will be constantly filled with blossoms.—S. G., *Ellicott City, Md.*

In our own practice, we have found it to be much the best method, to turn out the Calla plants into the garden or open ground late in the spring, and let them remain there through the summer, and repot them in September. The drying process, so much in vogue a few years since, is falling into disuse, as the plants subjected to it are not so vigorous afterwards as those that pass the summer in the ground.

PEARL MILLET.—To all who have sent us enquiries about this plant and its value for feeding, green or dry, we say, give it a trial in a small way; but, for a sure thing, we know of nothing as good as Sweet Corn. It will be a long time, we think, before we find anything better.

HYDRANGEA—LIBONIA FLORIBUNDA.

MR. VICK :—Please inform me in the MAGAZINE what is the matter with my *Hydrangea grandiflora*. It will not flower. Does it take much water. Mine just dies when the dry weather comes. Will you describe the *Libonia* and oblige an old friend?—M. A. S., *Springfield, Oregon*.

It will probably be a great benefit to the *Hydrangea* to mulch it heavily when the hottest weather approaches; possibly, in this way, it may be carried over the drought, after which it will be apt to flower.

Libonia floribunda is a small, shrubby, greenhouse plant, with elliptical leaves, and bearing numerous, solitary, tubulous flowers, scarlet and red. In summer the plant can be turned out into the border, and in the winter kept in a cool greenhouse or in a cool window. It is a plant somewhat difficult to send out, and purchasers are usually dissatisfied with it; in changing from one temperature to another it appears to be quite sensitive, and commonly drops its leaves in the operation. If parties receiving it had the convenience to give it close quarters in hot-bed, cold-frame or conservatory for a short time, it would come on all right, but transferred to the window of an ordinary house, the chances are greatly against its survival.

STRELITZIA AND POINSETTIA.

MR. JAMES VICK :—I received from a friend of mine two plants. Not knowing whether they will blossom or not, please inform me if they do, what they are like, and whether they must be kept moist or dry. One is named *Strelitzia reginæ*, and the other, *Poinsettia pulcherrima*. Please inform me through the MAGAZINE and oblige.—ANNA K. P., *Reading, Pa.*

The plants above-named are flowering plants; but the flowers of *Poinsettia* are small yellow ones, not at all conspicuous. These, however, are surrounded by a number of large, leafy bracts that assume a brilliant scarlet color. On well-grown plants some of these bracts are from eight to ten inches in length, and are very showy in the early winter when there is usually a dearth of flowers. *Strelitzia reginæ* produces very interesting and showy flowers of yellow or orange and blue. Both of these subjects, in northern countries, require a warm greenhouse or hot-house.

Aucuba Japonica.—I have a very fine *Aucuba Japonica*. Please let me know if I can propagate from a cutting, and what kind of soil is best; and, also, does the Wax Plant require much water? An answer in the April number of the MAGAZINE will greatly oblige.—MRS. G. S. M., *Owen Sound, Ont.*

Aucuba Japonica may be propagated both by cuttings and layers. The Wax Plant, when not growing, needs but little water; but, when in an active state, should have a liberal supply. At all times it delights in a warm, humid atmosphere.

ADVICE WANTED—ASTERS.

MR. JAMES VICK :—Last year I planted the seed of six packets of Asters and they all came up well. I transplanted them, and they all grew to the height of six inches, and about twenty of the plants grew twelve inches high. Finally, the smallest plants began to show decay, leaves began to curl up and die. I hauled up the plants and examined the roots, but could see no insect. At last, after pulling up most of the plants, I made the discovery I sought for. It was a small worm, about a half to three-fourths of an inch in length. The color was grayish black, the surface smooth and sleek, and so bright it fairly shone. After all the small plants were dead, they attacked the high ones and killed them. Not one flower came to maturity. I tried wood-ashes, but without avail, and consequently lost all of my Asters. It spoiled the appearance of my garden, as they were in the center of it. Nothing else in the garden was troubled by insects. I want you to let me know through your MAGAZINE, before planting time comes on, what I am to do to kill these pests. It is the first time in ten years of flower raising that I have ever lost a single plant by insects. This information may benefit some of the readers of your MAGAZINE.—A. W. W., *Quincy, Mass.*

If the solution of saltpetre described on page 78 of this volume be used for the destruction of this pest, we think it will be found successful. As may be remembered, it was directed to dissolve a tablespoonful of powdered saltpetre in a common painful of water, and pour about a pint of the liquid around each plant.

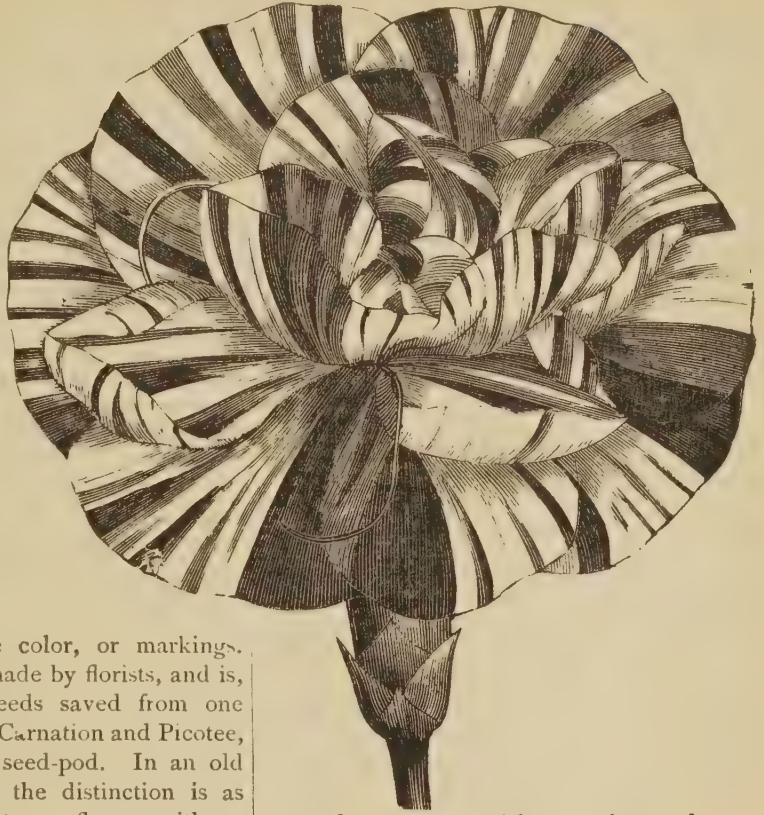
FLOWERS FOR SHADY PLACES.

From the author of *Blue Flag and Cloth of Gold* we have received the following note about flowers for the shade: "I wanted to write answers to two of your correspondents in a number of the MAGAZINE you sent me—I forget the date. One letter asked about climbers for a shady-house window. *Solanum jasminoides* is admirable. I have had one plant run up the side of a north window and over the top and far down the other side, blooming freely. And for a shady bed out doors—I went right out when I had read the question, to look at my own, which lies east of the house, with too many trees around to allow it more than a taste of sunshine at one or two times of day. And there were blooming, or had bloomed, Sweet Peas, *Lonicera Halleana*, *Gaillardia Josephus*, Hardy Phlox, *Nigella*, *Zinnia*, Foxglove, Poppies, *Fraxinella*, Feverfew, Zonal Geraniums, *Gladiolus*, Pansies, *Polyanthus*, Daisies, Wall-flowers, Stocks, *Salvias*, White Lilies, White Milfoil, *Pæonies*, Lilies pale yellow and deep orange, *Heliotrope*, Evening Primrose, *Veronica*, Pinks, not to mention all the hardy early things, *Narcissus*, &c., and *Petunias*, of course. Indeed, I have not told all. I have forgotten many. June Roses do well, though the monthlies want more sun. Well, I have run on long enough, and probably the questions have been answered by other people before this."

CARNATIONS AND PICOTEEES.

MR. VICK:—I have been trying to find out what is the real difference between Carnations and Picotees. I am told differently by nearly every florist I ask. I have read what you say in the *MAGAZINE*, but an old Englishman told me the other day that he used to grow great quantities of them in England, and that the difference between the two is that the Picotee has fringed-edged leaves, while in the Carnation proper the edge of the leaf is smooth, like a rose. I also want to know whether they should have lots of sun, or only medium. I had some fine plants last summer, but only one out of about a dozen flowered to any extent.—GEO. SCHOFIELD, *Toronto, Ont.*

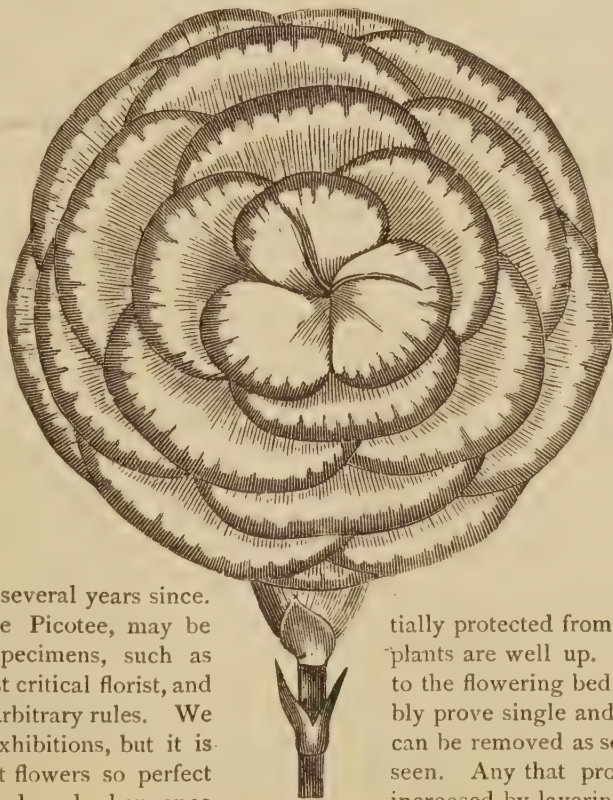
The Carnation and Picotee differ only in the arrangement of the color, or markings. The distinction is one made by florists, and is, of course, arbitrary. Seeds saved from one plant, may produce both Carnation and Picotee, or even from the same seed-pod. In an old work in our possession, the distinction is as stated, but for long years any flower with an irregular edge has been considered unworthy of propagation. The Carnation should have broad stripes of color running through from the center to the edges of the petals. The Picotee has only a band of color on the edge of each petal. Give Carnations the full sunshine. A little shade when in flower will prolong the bloom. We give engravings of both the Carnation and Picotee, both taken from prize flowers exhibited at one of the Royal Horticultural Shows in London, which we obtained several years since. These, especially the Picotee, may be considered perfect specimens, such as would satisfy the most critical florist, and conform to the most arbitrary rules. We have seen such at exhibitions, but it is only occasionally that flowers so perfect are produced from seed, and when once



secured are propagated from cuttings and named. Those of our readers, therefore, who purchase a paper of Carnation or Picotee seed must not

look for such results; but have a right to look for a fair share of good sweet flowers. In the March number of the *MAGAZINE* for 1878, we gave a colored plate of a group of half-a-dozen Picotees and Carnations grown from one paper of seeds, for the purpose of showing exactly what might reasonably be hoped for.

The seed should be sown in the early spring, in a fine mellow soil, and be partially protected from the hot sun until the plants are well up. In June, transplant to the flowering bed. A few will probably prove single and worthless, and these can be removed as soon as the flowers are seen. Any that prove very fine can be increased by layering.



COTTON CLOTH FOR COLD-FRAMES.

I notice the enquiry of "R. M. T." in the last number of the MAGAZINE in regard to cotton cloth for cold-frames. I have used such frames for several years with good success. Mine are made the ordinary size of hot-bed sash—three by six feet—with a bar across the middle. The cloth should be of the stoutest kind, and be drawn moderately tight over the frame, and tacked every few inches on the outer edge with carpet-tacks. I recommend a mixture of linseed oil and common resin, a half-pound of resin to each gallon of oil, or in that proportion, to be heated together until thoroughly mixed, and then applied with a brush while hot. This will make the cloth nearly transparent and impervious to water, and is better than clear oil. The cost is about one-fourth that of glass, and, if the frames are properly housed from the weather when not in use, the cloth covers will last five or six years. I usually sow seeds under cloth frames about the 25th of April, which is about a week or ten days after it will do to sow under glass. Cloth frames do not admit nor retain the heat so well as glass, and should be well protected at night. There is no danger of the plants burning, but they should be aired in the middle of hot days, the same as if the glass was used. If cold-frames were more generally used for starting seeds, the failures would be far less in number; certainly no one who has once used one, even of the rudest construction, would ever willingly do without it.—L. W. G., *Amherst, Mass.*

TRAILING ARBUTUS.

MR. VICK:—I noticed in the March number of your MAGAZINE, another inquiry about the Trailing Arbutus, which induced me to relate my success in transplanting it. It having been from childhood a great favorite, I often tried to transplant it, but always failed. One day looking over an old horticultural paper, I found some hints on the subject which I tried with perfect success. Taking a very shallow willow basket, we carried it to the hills where the Trailing Arbutus grew, lined the basket with moss, green side out, then carefully placed several roots in it, and filled in with earth in which they grew. We fastened the basket on the outside of a north window of the sitting-room, where but little sun reached it, and where we could often sprinkle it. The buds opened finely, and we were rewarded later in the spring by a second crop of buds and flowers. When it became very warm, we slipped the basket into the ground beneath the window, where the plants lived till winter. I left the place early in the spring for another home, where I have never been able to

find it growing to repeat the experiment. Will somebody try the experiment and report.—MRS. C. M., *Dickson, Ohio.*

CYCLAMEN BULBS IN SUMMER.

MR. VICK:—For three successive years I have endeavored to preserve Cyclamen bulbs, bought in full flower from a florist. The first summer I rolled the bulb in soft paper. The second I left it in the pot, which was kept in an outhouse. The third I sunk the pot in the earth. The result in each case has been a good growth of leaves in the following winter, without a single flower stem. They have been planted in small pots, in moderately rich earth, with the top of the bulb scarcely covered. I have failed this winter with *Oxalis*, planted in the same way, except that I set the bulbs deeper than the Cyclamen. I have a strong growth of healthy leaves, without a single bloom. Can you give me the reason of my non-success, and instruction for better management.—CONSTANT READER, *Boston, Mass.*

Florists do not consider Cyclamen bulbs worth keeping after the third year; the flowers are then few and small, or none are borne. One essential point must be observed in growing Cyclamens; they must be kept in a cool atmosphere, or one not above 45° or 50°, and have plenty of air. In too high a temperature they will run to leaves without blooming. Probably in connection with one or the other of the above-stated facts may be found the explanation of the difficulty in the present case. The proper method of keeping the bulbs during the summer, after flowering, is to check the watering when the plant begins to show signs of stopping its growth, but not to withhold it entirely. Plunge the pots in a cold-frame and dim the lights a little, so as to protect from the full force of the sun. In September, shift the plants into pots a size larger and bring into the full light, increasing the water with the demands of the plant.

A GOOD BLUE FLOWER.

I notice some of your correspondents in the MAGAZINE inquire for a real good blue flower. There is nothing so good and satisfactory as *Browallia*. I have raised it from seed and had great success with it. It is a free-bloomer, constant, and is very conspicuous in bouquets. It is not, however, a real sky-blue, but suggests a purple-blue, if there is such a color. It is a very satisfactory flower to cultivate, and, if raised in good, rich soil, will give immense flowers and plenty of them. My experience with it is that ordinary soil will give only ordinary flowers. I advise your readers to try it.—A. D. W., *Hartford, Conn.*

DAHLIAS AND GLADIOLUS.—There need be no haste to plant Dahlias or Gladiolus. Our summers well north are quite long enough, and the former, particularly, gives its best flowers in the autumn. Tuberoses need all the time we can give them.

THE CHERRY BIRD.

MR. VICK :—Recognizing the identity of the varied terms, Life, Love and Youth, as applied to human experience, and history, traditional and written, as the only “foot-prints” of it after so much is passed by us; and feeling that we cannot be too observing of all the facts in every case, however seemingly trivial, to render our experiences reliable and intelligible, I am induced to add my mite, without detracting anything from the notice of the Cedar bird found in the very acceptable, delicately nice, and generally correct literature of VICK’S MAGAZINE, over the cognomen “Artist,” in the number for March of the current volume. We are noted Cherry growers on the western slope of the Delaware river, in the States of Pennsylvania and Delaware, and are well acquainted with the habits of the beautiful little bird under review, as also of the much-petted and semi-domestic, proverbial Robin Red-breast; and, speaking for self, have no special prejudice for or against either, only that which springs from “the first law of nature,”—that is, self-interest. How far we may rightfully carry this impulse against our God’s creations, or the benign possibilities called Nature, is wholly a matter of individual conscientiousness, and all “law” is limp that intervenes between man and his communitive rights! For my own part—to set myself in true light—my sympathies are excited for all that dies, by reason of seeming conflict of interest, since I hold all life equally sacred to its possibilities.

The charming little Cedar bird comes to us, not as the Robin, singly and in pairs, but, like the Blackbird, in flocks of overwhelming numbers; and though they are not noisy, they are generally hungry, and when the Cherry trees are in bloom, it is none too soon for them to show their proverbial fondness for Cherries, if they can do no better. I have known them to visit the Belle de Choisy in bloom and swallow every blossom they could find—gobble it down whole! But this, unfortunately for us, is not their habit when the Cherry is nearly ripe, but, on the contrary, they persist in tasting each one. And the consequence, unfortunately for the dear little creatures, and while nobody says “Shoo” to the Robin, is that they are shot, mangled, picked and potted by the thousand, without regard to the “law” or the use of the bird as an insect eater! If our early trees are only going to give us a few thousand pounds instead of tons, and then, if it happens that these Cherry birds favor us with their presence in unusual numbers, we get no marketable Cherries that year, though Jack Frost showed some liberality.

It is all very well for your “Artist” to give

his experience and draw his deductions, so far as he and I are concerned, but then coming generations may think strange of that conflicting history that springs from impulse and lack of thorough observation, and they may set it down to our several prejudices and not as they should, to honest conviction from different stand-points of observation.—SIGMA.

COLEUS KIN—BY VERSCHAFFELTII.

A pleasant writer in the last number of the *Gardener’s Monthly* makes Coleus Verschaffeltii talk about itself and kindred in this wise: “From the day I was first introduced to the public in my chocolate and violet-colored suit until the present time, I have been praised as few plants have been. But being neither envious nor vain, I have desired the company of those whose colors are brighter than my own, as variety in harmony gives greater satisfaction than any one can singly bestow. Some of the older varieties are well fitted to produce this effect, and none more so, perhaps, than my old friends, aurea marginata and golden circle; but the majority of their class either lack expression, or are so delicately constituted as to become perfect ‘frights’ when planted out of doors. During my time, many varieties with excellent characters when in my company have performed their parts but poorly, whilst others have had enough to do to keep up a doubtful reputation.

“At present the prospects are good for a grand display, as a new order of aspirants are being marshaled for duty, whose merits, some say, are such as to eclipse the old members of our family, and even take from me the honors I have enjoyed so long. Should their claim be well founded, I shall surrender my right to the first place without regret, and be even glad to take any subordinate place I may be deemed competent to fill. But should they fail to meet the expectations thus produced, it will be my duty to remain at my post until such a time as new varieties are found, regarding whose merits there can be no doubt.

“Be it understood, that what has been said about my associates has reference only to them as bedders; for it is well known, many varieties, when grown under glass and partially shaded from the glare of sunshine, possess greater brilliancy and beauty than I can lay claim to.

“Before closing this monologue, I am forced to say a word in behalf of a plant seemingly possessed of extraordinary capacity for the work in which I excel. I refer to *Acalypha Macaffiana*, the leaves of which are large and finely-formed; color, reddish-brown, and irregularly

blotched with bright shades of crimson. When fully exposed to sunlight it looks as if "on fire through all its length," and, being much more stately than myself, might form the central figure in a group of *Coleus* or other plants with the greatest acceptance."

PRACTICAL HINTS.

MR. VICK:—While reading the February number of your MAGAZINE, I was particularly struck with the article and illustrations on "Progress," from the log-cabin up to the "architect's design." How many of us who cannot aspire to the "new house, with towers and gables, and curious porches, and strange windows." Ah! those "windows of the soul," for by the windows may you judge the house, and, by the house, the occupant.

Yet, not always, for we may long in vain, and try to be satisfied with the "dry-goods box," with its pigeon-holes, and ourselves in it with souls contracted and starved to anatomies, before exit can be made through these same little windows. It is the masses who, in the line of progress, must pause and spend a life-time in these "dry-goods boxes," and it is for the masses that your MAGAZINE is published. I will therefore give my experience for their benefit.

Soul starvation forces and spring calls us, and we scramble out of our "dry-goods box;" we walk off to some distance, and study the situation. We are tired of seeing the chimneys at each end shoot up so straight from the ground, the roof stretching all the way from one to the other over two rooms upstairs and two down, with a double file of windows and doors marching in military precision on each side of the house, and we are determined to break up the monotony. One of these chimneys, like the mariner's compass, points forever to the north, and, change clumps of shrubbery however we may, it is just as persistent, and we resolve to take advantage and make a pleasure of necessity. Now the south end we can manage, for all florists convey the idea that rockeries are for sun-loving plants, and those requiring little depth of earth, so we set to work and erect an Egyptian pyramid, pour sand over it till the interstices are filled, cast a handful of *Sedum* and *Portulaca* seed into the air above it, then a handful or two of sand; plant a *Yucca* root at one corner, a *Caladium*, *Canna*, *Palm*, a few heat-loving *Lilies* and a *Ricinus* about it, and *here* are our tropics. To nature we must go for the north end. We have seen boulders of stone fern-clad and dripping with the damps of eternal shadows, and in our opinion a rockery is far more appropriate for woodsy plants than for

tropical. We cast about, irregularly, large limestone rocks; fill in with black leaf-mold; plant an Ivy at the base of the chimney; Ferns, *Columbine*, *Perennial Larkspur*, between the rocks; Pansies, Daisies and Cowslips at the bases, and *Dicentra spectabilis* at the foot of a white cross. Let us see what time will do for us.

It has been five years since, and the Ivy has climbed to the top of the chimney, and is reaching into "mid-air." Only a few jagged points of gray stone jut out and lend a picturesque effect to that pile, like the ruins of some moss-covered castle seen upon many an Alpine rock; and the cross, weather-beaten and leaning, stretches one arm to heaven, while it reaches the other, as in pity, to whole chains of Bleeding Hearts, drooping in touching humility beneath its shadows. Here the traveler and the visitor pause, while the eye forgets to be offended with the straight, straight roof and the tall, tall chimney; and here we come, and as our eyes dilate, we feel our souls grow larger and spread their wings for flight in fancy's field of liberty.

My father used to say a woman must be an extremist, at the north pole or the south. My two chimneys are the poles; when I am not at one, I must be at the other. To-day I am at the north pole, but on the inside, by the fire.—
MRS. M. L. S.

OUR COLORED PLATES.—Some unprincipled people are making bad use of our colored plates. A gentleman of New Bedford, Mass., writes: "There is a party now canvassing here for seeds and plants, who called at my house last evening. I could not get his name. He says his goods are from Scotland. He is using the colored plates from your MAGAZINE to make his sales by, and has a strip of paper pasted over 'Painted for Vick's Monthly.' He claims the paintings were made expressly for his house. When I showed him all he had in your MAGAZINE, he left. I think he is a fraud."

POTTING-EARTH FOR THE PRAIRIES.—Mr. ALBERT PEARSON, of Humboldt, Nebraska, thinks our recommendation of decayed sod, &c., for potting soil, is not just suited to our western readers, and writes: "As a rule, on all prairie lands, two parts of soil, one part sand, and one part old manure, varying the proportions according to the natural proportions in the soil, will grow nine out of ten of the varieties of greenhouse plants."

Our country is so large and so varied in soil and climate, that such suggestions from different points are of great practical value, and we are at all times pleased to publish such facts.



OUR YOUNG PEOPLE.

BOTANY FOR LITTLE FOLKS.

The Milkweed, on account of its prevalence almost everywhere, is a plant we are all familiar with. There are many species of it, but none of the other kinds are so showy as the one commonly known as Butterfly Weed and, by some, as Pleurisy Root; its botanical name is *Asclepias tuberosa*. This is a dwarf-growing species, with large umbels of bright, orange-colored flowers. Many of our young readers, we are sure, will know it, for it grows in most parts of the country on dry, sandy fields and hills, and, for a long time during the summer, makes the fields and roadsides gay with its rich, warm glow. But those who may not have seen the Butterfly Weed have surely made the ac-



Fig. 1. *Asclepias tuberosa*.

quaintance of some of the other kinds of Milkweed, and probably, in gathering some of the clusters, of its sweet-scented flowers, have found that the milk oozing out from the broken stem has made their hands disagreeably sticky. The flowers of the Milkweed are very curiously formed in some respects, and we do not know of any that will afford the young student more pleasure in examination than this one. With a good lens all the different parts may be clearly seen. If the illustrations and descriptions here given will sufficiently interest our readers to induce them to make a careful inspection of the

Milkweeds the coming season, our object in writing about it will have been secured.

By reference to figure 2 it will be seen that a portion of the flower is reflexed or bent backwards and other parts are upright. The showy part of the engraving that appears reflexed, is the corolla, and underneath this, but not seen, and lying in the same manner, is the calyx. The prominent upright part is called the corona, or crown. This part, it will be noticed, from the base, for a short distance, is almost upright and then gracefully curves outward. The lower part of each division is really the base of



Fig. 2. Flower enlarged of *Asclepias*.

a stamen or, otherwise, a filament, and the part forming the crown commences where it begins to curve outward. This will be clearly perceived by the illustration given at figure 3, which is an enlarged side view of a stamen, showing one of the divisions of the crown as it grows out from it. Each of the divisions of the crown is called a hood, and in each hood grows a prominent curved horn. These hoods are sometimes called nectaries, for in each of them, at its base, honey is secreted; this is what produces the sweet perfume of these flowers, and here the honey-bees find their little stores awaiting their visits all through the bright summer days. Besides what has now been described, it may be noticed that the engraving, figure 3, shows the stamen bearing an anther at its summit. The anther has two cells, and in each cell is the pollen. As we all understand, the pollen of most plants is shed in innumerable little grains, as fine as the finest dust; but in the *Asclepias* these pollen grains are all joined together into a sort



Fig. 3. Stamens with one division of the crown.

of pear-shaped body that is called a pollen-mass. The pollen-mass has a prolongation at its summit, and by this it becomes attached to a little gland that is on the upper part of each lobe of the stigma.

The pistil of the *Asclepias*, very much magnified, is seen at figure 4. The stigma is five-lobed, and at the upper part of a lobe may be seen a little oval spot intended to indicate the position of the gland to which the stem of the pollen-mass attaches itself. Our readers will understand that the stamens that stand all around the pistil are removed in this illustration; we can imagine them in their places, and each anther will be opposite the line where two lobes of the stigma join together; when the anthers are sufficiently mature, the cells open, the stem of the pollen-mass increases slightly in length and reaches out until it touches one side of the gland, and, thus, on each of the five lobes of the stigma, hang the pollen-masses in pairs. As already noticed, a pollen-mass consists of a great number of grains of pollen, and from each grain a thread or filament is produced downwards, pointing under the base of the stigma, and entering the style at that point, it grows downwards until it enters the ovary and into the ovule, thus fertilizing it. The pollen-masses adhere to bees and other insects that visit the flowers, and are borne away and carried to other flowers, which they assist in fertilizing, thus providing a natural means of crossing. It is said that bees are



Fig. 4. Calyx supporting the Pistil.

finally, they are overcome by the weight and fall and perish.

We do not expect all of our readers to comprehend perfectly the structure of this flower and the process of fertilization as we have described them, but we would have them take the first opportunity they have to examine the flower for themselves, and, we are confident, they will discover enough to be of great interest to them. The seed-vessel of the *Asclepias*, as seen at figure 5, is a pod, or, more properly, a follicle, opening only on one side. The seeds are numerous, and each one bears at its summit a tuft of silken white hairs; they are all arranged around a central axis, and appear as shown at figure 6, when removed in a body from the seed-vessel.

Asclepias tuberosa is considerably cultivated in Europe as a flowering-plant, but in this



Fig. 8. Wax Plant.



Fig. 5. *Asclepias* seed-vessel.



Fig. 6. Fig. 7. Seed with tuft of hairs.



country is neglected, probably because it is a native; it will yet be more prized than it is now, for it has sterling good qualities. The juice of this species is less milky than that of any of the others. The young shoots of *A. corunti* and some other kinds are frequently eaten in the same way as *Asparagus*. The fiber of the stem of these plants is very strong and tough, and some attempts have been made to utilize it in textile fabrics, and to manufacture it into paper; these attempts have been partially successful and, possibly, the plants may yet be cultivated for these purposes.

The natural order, *Asclepiadaceæ*, of which the genus *Asclepias* is typical, is composed of numerous genera. Among them is the *Hoya*, familiarly represented to most of us by the Wax Plant, *H. carnosa*, and some other species. Another favorite is *Stephanotis floribunda*, a climbing, greenhouse plant, producing tubulous or bell-shaped, fragrant, white flowers in great profusion. There are numerous other plants of

often impeded by these pollen-masses, which sometimes cling to them in such numbers as to prevent their climbing upon their combs and,

this order cultivated for their flowers and fragrance, and some for their oddity and curious appearance; these are particularly the *Stapelias*, which have beautiful, star-like flowers, but the sweet odor that is associated with most of the plants of this order is, in this genus, changed into a disagreeable and fetid smell. By some

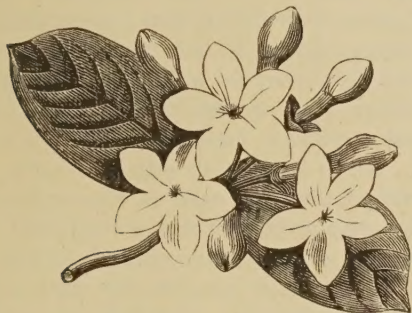


Fig. 9. *Stephanotis*.

slight change, no doubt, in the combination of chemical principles in the living plants is produced either a delightful fragrance or a noxious stench. The mal-odor of the flowers is not so strong as to make them very objectionable, as it is not perceived except when very close to them. The general appearance of the *Stapelias* reminds one of the Cactus family, as the stems are thick and fleshy. *Stapelia olivacea*, shown by the accompanying illustration, gives an idea of their general appearance, although there is considerable variation in form in the different species, of which there are many; they are almost entirely from South Africa. These plants are of the easiest cultivation, requiring to be kept nearly dry during the winter and to be carefully watered during the summer. They are easily propagated by cuttings, which, when first taken off, should be allowed to lie a few days, and part with some of their moisture, and they will then readily root in a short time after inserting them in soil. They are worthy of attention for their grotesqueness and the beauty of their flowers.

Periploca Græca, from Southern Europe, is a hardy, shrubby, climbing and twining plant with pointed, oval, dark green, glossy leaves, and bears long-stalked clusters of brown and greenish, hairy flowers that exhale a disagreeable odor. It is a very handsome plant, and desirable to employ in covering walls and trellises situated where it will not offend by the smell of its flowers. There are several species of a twining and climbing, shrubby plant growing in this country from Pennsylvania southward, called *Gonolobus*. In Florida and the Gulf States grows *G. macrophyllus*, the milky juice of which the Indians of that section formerly used to dip their arrows in to make them fatal when they hit

their enemies, as the juice is a most deadly poison. The juice of most of the plants of this family has active properties, though differing in the various members. Of some, it is emetic, some sudorific, and some cathartic, and many of the plants have been, and are still, in use in medicine. In Ceylon, a plant called *Gymnema lactiferum* is eaten on account of the nutritious quality of the milk, and bears the common name of Cow Plant. At the Cape of Good Hope, another, *Oxystelma esculentum*, is similarly used.

In India, the tenacious fibers of several species of *Asclepiads* are employed for cordage, one kind, *Marsdenia tinctoria*, supplies a dye, and the milky juice of others furnishes a good caoutchouc.

The name, *Asclepias*, is that of several ancient physicians, and has been bestowed on these plants on account of their frequent employment medicinally. The order is a very distinct one and of much interest in many ways. The economic value of some of the species has, probably, not yet been learned, and they are, very likely, destined in the future to become of importance in the arts.

The fact alluded to of the ill-scented odor of the *Stapelia* flowers, should be noticed as causing them to be as attractive to some insects as doubtless are what we call sweet-scented flowers to insects of other kinds. Quite a number of plants may be mentioned that produce flowers



Fig. 10. *Stapelia*.

that emit disgusting odors; one, for instance, is *Arum Dracunculus*; this is so rank and carion-like as to attract blue-bottle flies in great numbers. Although the smell of the *Stapelia* flowers is not as strong as that of the Dragon *Arum*, yet, these flies find it and often "blow"

the flowers, that is, lay their eggs in the fleshy petals; here the grubs hatch out and crawl about the flower to find sustenance, which, of necessity, must be decaying animal matter, and, failing in this, they shortly die. We perceive, then, that the odors of flowers, whether agreeable or offensive to us, are attractive to the members of the insect tribes, and these, by their numerous visits, carrying the pollen that attaches itself to them, greatly assist in cross-fertilization, that is, fertilizing one flower with the pollen of another. As noticed in a former article, those flowers that are thought to be greatly dependent on the agency of insects for fertilization, are called entomophilous, or insect-loving plants. The most noted of these plants are the Orchids, but it is thought that insects are scarcely less necessary to the Asclepiad family. The means by which the pollen-mass of the Asclepiads is aggregated into masses is a jelly-like substance to which the pollen adheres, and this moist, sticky body becomes attached to insects at the least touch, and is then carried away.

A CALIFORNIA FLOWER.

Around our house and about our school we have a flower that grows almost as high as my head, and I am thirteen years old. I asked my teacher to tell me what it was, and he said, "We will pack up a branch in moss and send it to Mr. Vick." So we did, and as it only weighed a little, put this letter with it, as teacher said it would not cost more than three or six cents. It grows wild about here. The flowers are pink and purple, kind of mottled, and in clusters around the stem; then there will be a bare space of four or five inches, and then some more flowers. Some people call it Lupin.—CHARLES, California.



The flower received with the above is a *Colinsia*. It is so well described by our correspondent that with an engraving of both plant and flower its character will be understood. We saw many acres of these flowers in California, and when observing them first from the car window somewhere in the neighborhood of Sacramento, we also thought they were a species of Lupin. They grow well anywhere.

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